Gifts of the Nile

MAN IN HIS WORLD

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James Forrester — Co-ordinating Editor

GIFTS OF THE NILE

by

William Flannigan
Douglas M. Gray
Kenneth M. Hall
Marilyn Hladun

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MAN IN HIS WORLD SERIES

Nomadic Journey
Gifts of the Nile
Mexico Emerges
The Eskimo – Journey Through Time.

J. Forrester is Supervisor of Geography, The Board of Education for the City of Hamilton
W. Flannigan is Geography Teacher at Barton Secondary School, Hamilton
Douglas M. Gray is Professor of History at the Althouse College of Education, London, Ontario
K. Hall is Head of the Geography Department, Southmount Secondary School, Hamilton
M. Hladun is at Lawfield Public School, Hamilton

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View of Egypt and the Nile Delta taken from Gemini 4 Spacecraft during an orbital mission. At top is the earth's horizon; Mediterranean Sea to left: Suez Canal and Red Sea right background.

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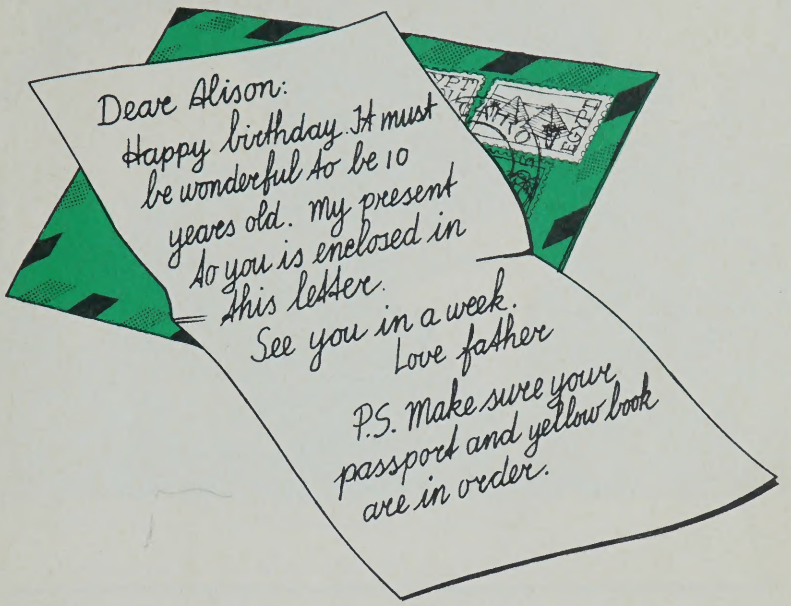
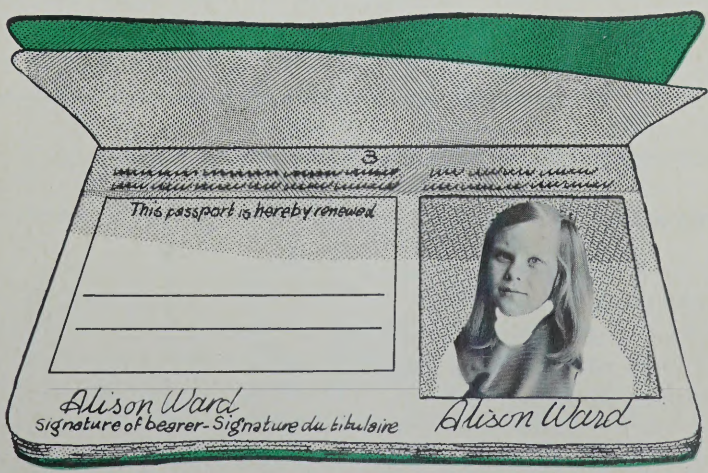
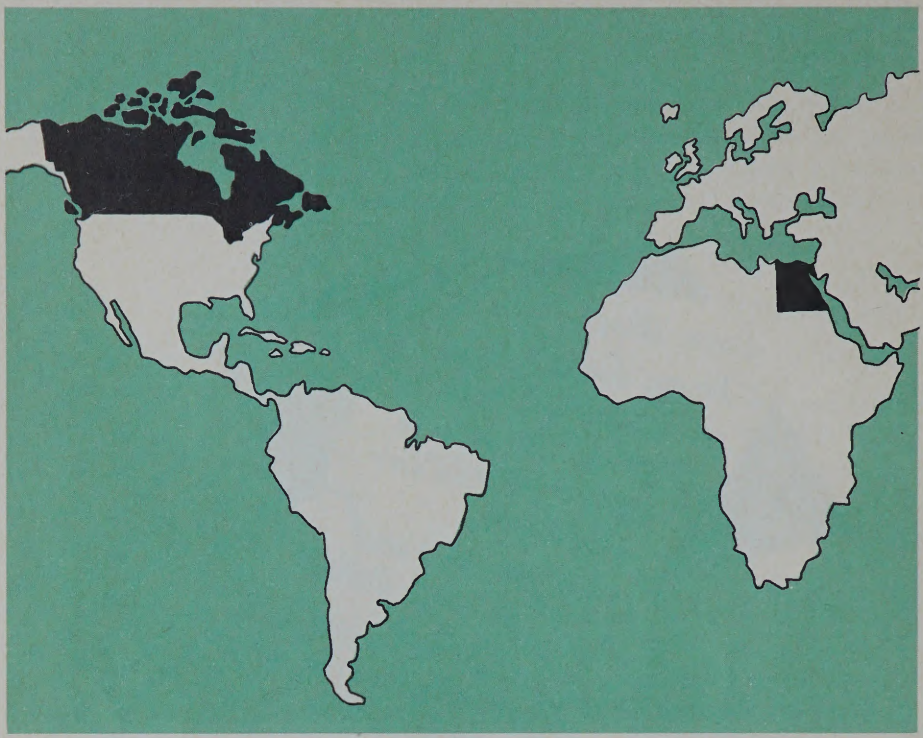
The Birthday Present

MY NAME is Alison Ward. My father is an **archeologist**. He has been working in Egypt for the last two years and I have missed him very much. Then last week I received a registered letter postmarked Cairo, Egypt. Of course, Dad always writes to me every week but this was **very special.**



That was all it said, but in the letter was my present — an airline ticket from Toronto to Cairo. I was going to Egypt!





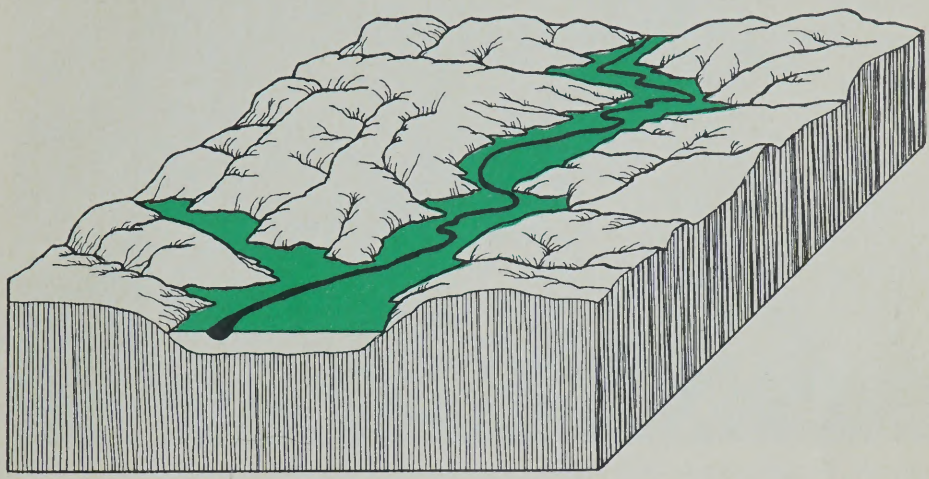
1. Write a letter to a Travel Agent to learn which Canadian Air Lines could fly you from Toronto to Cairo.
2. Using the information obtained from the Travel Agent, map the air routes you would use to fly from Toronto to Cairo.

Things to Do

Find out how long it would take to go to Cairo from Montreal by ship.
How many hours would it take to fly to Cairo from Montreal? Would the aeroplane make other stops on the way?

As I tell you this, I am on my way to Egypt. For the last hour we have been flying over miles of empty desert. Is **this** Egypt? From my father's letters, Egypt is supposed to be a land of beauty.

The air line stewardess notices my disappointment. "Press your nose up against the window," she says. "Look up ahead. **There's** the beauty your father is talking about. That's the Nile River."



The river meanders between the valley walls of a wide floodplain.

Did You Know?

. . . A river such as the Nile River, pictured above, is called an Exotic River. Is this a good term to use? The word "Nile" refers to black earth.

What I see is a narrow ribbon of green cutting through the great desert. Within the ribbon a very muddy-looking river slithers along like a big brown snake that shimmers in the sunlight. From my plane window, the ribbon and the snake seem almost swallowed up in the desert. I must admit my first impressions are disappointing: for one thing, I don't like snakes! But seriously, I can't understand why my Dad finds working here so interesting.

Modern Cairo, showing the Kasr El Nil bridge. To the right are big hotels; to the left is the **Arab League.**

Street scene in Old Cairo: a lively place of bazaars and mosques.

Now we are flying over the city of Cairo. Just below me are hundreds of tiny matchbox-like houses separated by narrow winding streets. Then suddenly another side of Cairo sweeps into view.

But almost as quickly as the big modern buildings appear, they vanish. Again the old city with its small homes, narrow streets and tiny shops sprawls out before me. I wonder whether that's a market place. Jammed in a small square are crowds of people thronging around brightly coloured stalls. There are camels also. It looks very crowded, very strange and very old.

What a queer mixture it is of East and West, of old and new! We descend quickly now and the airport comes into view. Within seconds the soft thud of the wheels tells me I have arrived.

My father is waiting at the gate; I can see him from the airplane window. We both wave furiously. Finally I am out and running towards him. "Dad, I am here. It's so good to see you. But you are so brown! Just like the Egyptians."

"Don't worry, my dear," he smiles. "After two months here you will be as tanned as I am. We will be spending much of your holiday travelling with a friend of mine, Dr. Hamid El Amar and his son, Mustafa. The boy is a year older than you are, but I am quite sure you two will get along well. Mustafa, like his father, is interested in **archeology**. They will show you the ancient world of Egypt. There are so many things to see."

"Oh, Dad do we have to go to all the museums and look at old rocks and things? That won't be much of a holiday!"

Father laughs. "Come along, young lady, you've a lot to learn."

Things To Do

List the ways in which Modern Cairo is similar to a modern Canadian city.

Did You Know?

. . . According to the 1960 census, the population of Cairo was 3,349,000 people.

. . . Cairo's oldest streets date back over 1000 years to 969 when an Arab Caliph made it his capital. The Romans had a camp here but in the days of the Pharaohs, Thebes, Memphis and Heliopolis were ancient Egypt's great cities.

The Map Is Questioned

We drive off in a sun-blistered old Jeep with me holding on to my hat. Over the noise of the engine and the wind, Dad shouts in my ear, "We won't have time to go into Cairo, Alison. Our office is just a few miles down the river road. We can stop there for tea and at the same time pick up Dr. El Amar and Mustafa."

In a short time we are there.

"Is this your office, Dad?" I ask as the Jeep comes to a stop.

He grins at the look on my face. "Come now, we just work here; we don't live here. And we don't need much of a roof to cover us since we're mostly out on field work. It rains very little in Cairo."

Just then a tall middle-aged man with deepset eyes approaches the Jeep and bows gently. "Allah be with you, Miss Ward, I am Dr. El Amar." His soft voice makes me think of the Wise Men of the East.

"How do you do, Dr. El Amar. Where is your son, Mustafa?"

Dr. El Amar motions toward the office. "He is inside. He spends much of his time examining rock specimens, but I know he is anxious to meet you." As we enter the office, a dark-haired boy looks up from a table filled with pieces of rock.

"Hi, you must be Dr. Ward's daughter."

Three archeologists: Alison's father, Mustafa and Dr. El Amar.

There is nothing mysterious about Mustafa. He talks like the boys in my class at home. In fact, he seems very Canadian. But if all he does is study rocks, he is going to be a real bore.

"Do you help your father very often?"

"Yes, I do. Dr. Ward and my father. Just now I am helping them with a study of the ancient ruins of the Old Kingdom. You must have noticed a great deal of evidence as you flew into Cairo."

"Do you mean those big piles of rubble?"

"Yes, you can learn a lot from a pile of ancient mud bricks."

"To think that you can learn so much from the past is nonsense. Why not look at the present where so many more wonderful things are happening!"

"You're wrong, Alison, you **can** learn . . . "

Impatiently I cut in: "Take this map on the wall, the one with the title, **Cradles of Civilization**, — how do you know if these were cradles of civilization . . whatever that means?"

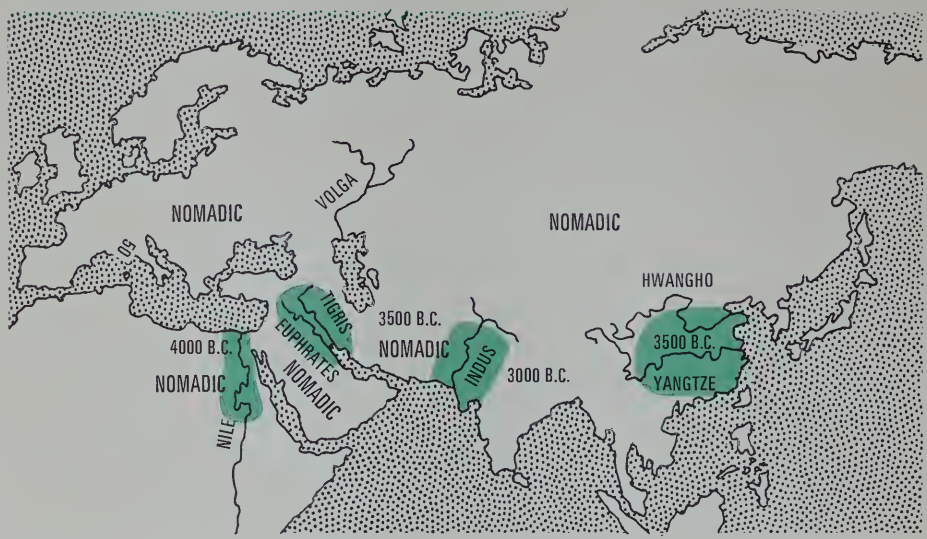
Dad answers. "The kind of proof you want would take some time to collect. For the moment you must believe me when I say that much can be learned from that map, but one has to read it intelligently."

Did You Know?

. . . At Asyut, on the Nile, the average annual rainfall is 1/5 of an inch. South of Asyut years may pass without a drop of rain falling.

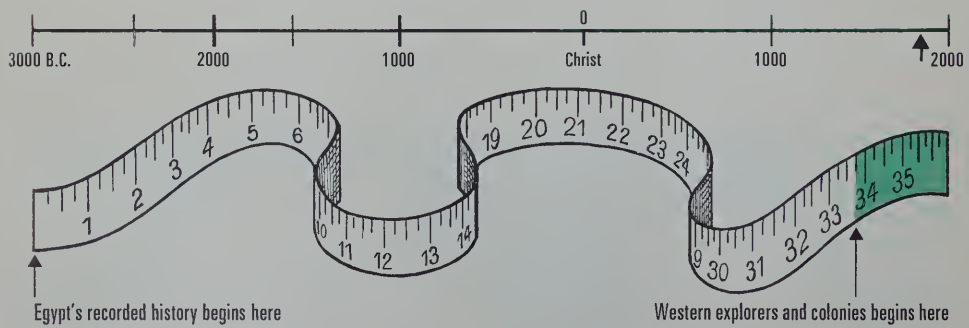
Do you understand the meaning of the word **nomadic**? How would you compare nomadic living with the way of life in the areas marked **Cradles of Civilization** on the map on the next page? What does it mean to you to see the numbers 3,500 B.C., 4,000 B.C. and 3,000 B.C.? Why don't you take some time now to look at the map with these questions in mind?

Cradles of Civilization



1. Most areas on the map are labelled **nomadic**. Explain what this means.
2. How does the way of life in the four coloured sections differ from the rest of the world at that time?

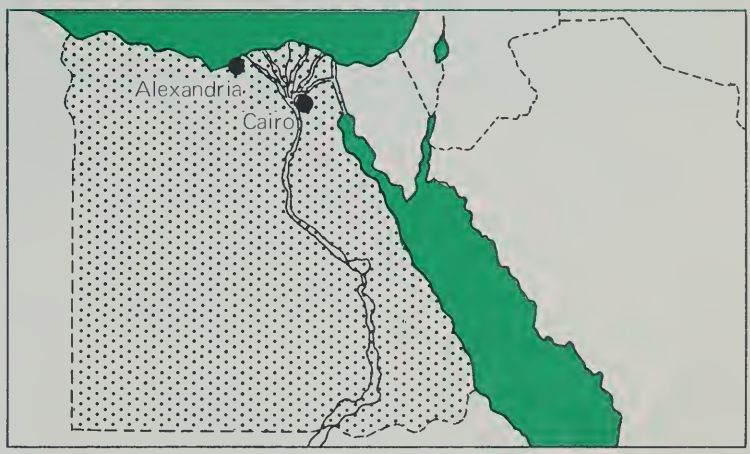
Compare a 36-inch tape measure with the history of civilized man.



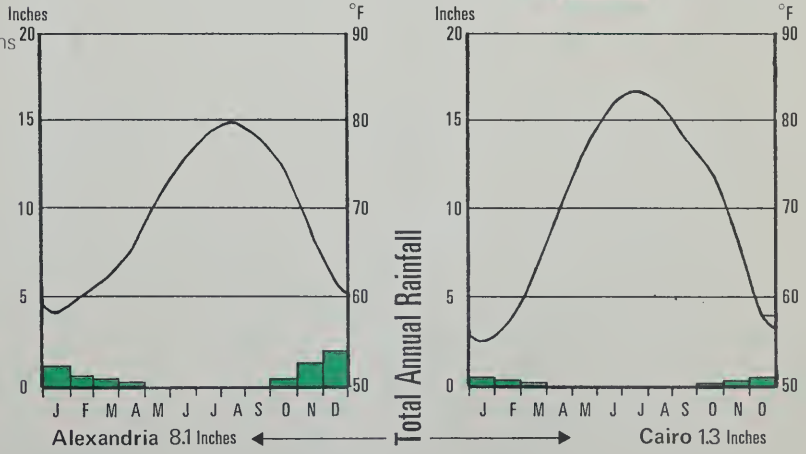
3. a) How many years have gone by since Jesus Christ was born?
   b) If the dating symbol B.C. as seen on the map means **B**efore **C**hrist, then how many years old is each of the coloured sections of the map?
4. Check the dictionary meaning of **Civilization** and Latin root words **civis** and **civitas.** How does this help to understand the change in man's way of life?

5. The map maker calls the coloured areas **Cradles.** Show that he is correct in doing so by referring to the dates on the map and the change in man's way of life.
6. What features are common to all four cradles of civilization? Suggest which one feature is most important.
7. One of the cradles is Egypt. Why does Egypt seem a most unlikely spot for a cradle of civilization to develop?

i) Present day Egypt's largest cities.



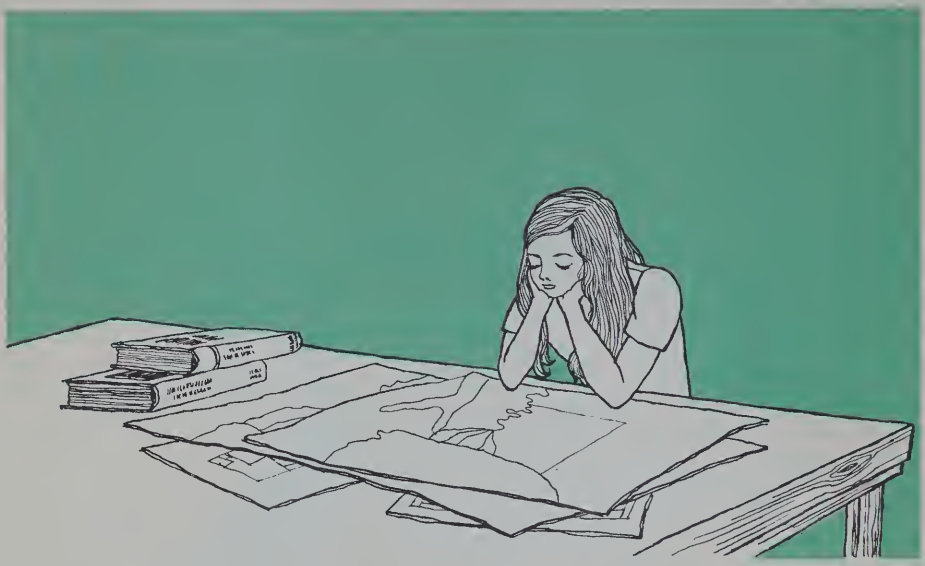
ii) Climate Graphs



While Mustafa clears away his rock samples and Dad prepares tea, I examine the map more carefully. I notice some things which make the title seem a bit more reasonable than it does at first glance, but now tea is ready and Father and I are going to a real Egyptian house where I will be staying while away from home.

For the next few days I forget the map and its problems. I am busy seeing Cairo, visiting a Mosque, a perfume factory, a Bazaar.

The Proof Is Found



When I come back to the office with my father, the sight of the map makes my doubts return. "I think it may be possible that civilization started in those places," I say to Mustafa, "but what **proof** is there? Must I accept the map as being true? To me it's like school all over again where we **must** believe things that we are told. Can't you give me some convincing proof?"

"You're right in one way," says Dr. El Amar, "because in the beginning it appears like guesswork. But our guesses are based on careful observations. We study something carefully and come up with an idea or a **theory**. We check this out so it isn't pure guesswork. But our theories cannot be said to be true until we go out and find more proof to back them up. And that is the job of your father and myself as archeologists, to find more and more proof."

Now my father speaks up. "According to the map we are sitting on top of one of the Cradles of Civilization. In the next two weeks you will have many chances to make field studies that will provide you with the proof you desire. But before you do this, take a look at some evidence we have already. These diagrams are as reliable as we can make them."

Father motions me over to the big table on which are spread out six pieces of paper. I do not know where to start. Mustafa, sensing my confusion, comes over and whispers, "Need any help?"

"Yes, I haven't a clue as to what I am to do."

Dr. Ward chuckles. "I never thought I'd hear my daughter admit she was stuck! Look, we'll start you off and once you get the idea you can continue on your own. Above all, keep in mind that we are searching for **evidence that a great civilization was located in Egypt.**"

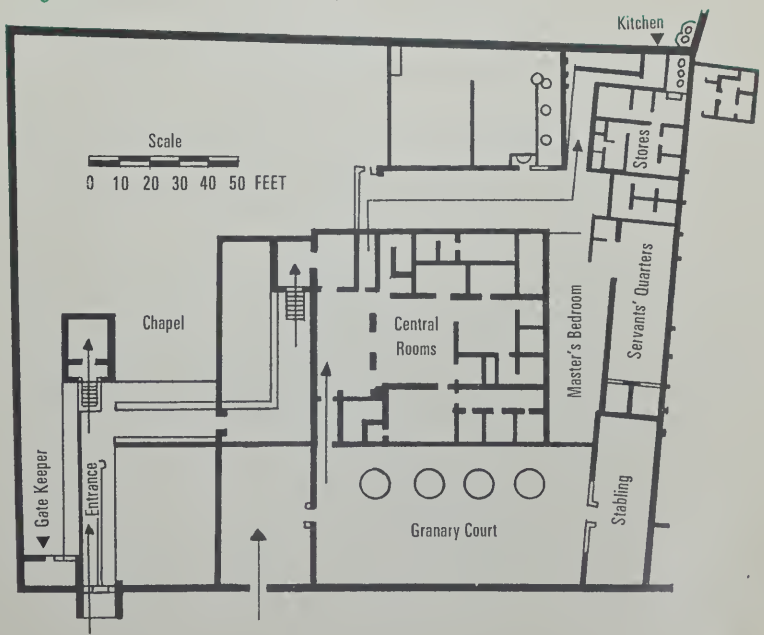
Things To Do
Find the difference between the terms "evidence" and "proof."

How the Ancient Egyptians Lived

Let's look at the paper marked Diagram 1. Examine the plan.

1. What evidence can you find that shows:
   a) a very advanced way of living compared to the nomad?
   b) luxury?
   c) religious belief?
   d) What ideas have you talked about in answering (b) and (c) that show how much more civilized the Egyptians were than the Nomads?
2. If this is one man's house, it is very large. How big is the property? How does it compare with your home? How does it compare with the size of your schoolyard?
3. This home is not typical of how all Egyptians lived. Find evidence to show why it is not typical.

Diagram 1. The home of a wealthy man in Tel el Amarna.



Scattered Pieces of Evidence

Diagram 2. Workmen's Quarters in Tel el Amarna.

1. The diagram of the workmen's quarters is on the same **scale** as Diagram 1. Why is this important? Compare the way of living between the house in Diagram 1 and the workmen's home. What does this tell us about the Egyptian people?

2. How do Diagrams 1 and 2 show a degree of **class structure** in Ancient Egypt? How does class structure show that Egyptian Civilization has advanced?

3. Examine the remaining Diagrams numbered in order from 3 to 6. Show how the order in which they have been placed helps us to understand how a major civilization spread throughout Egypt.

4. Explain why the map is the best Diagram.

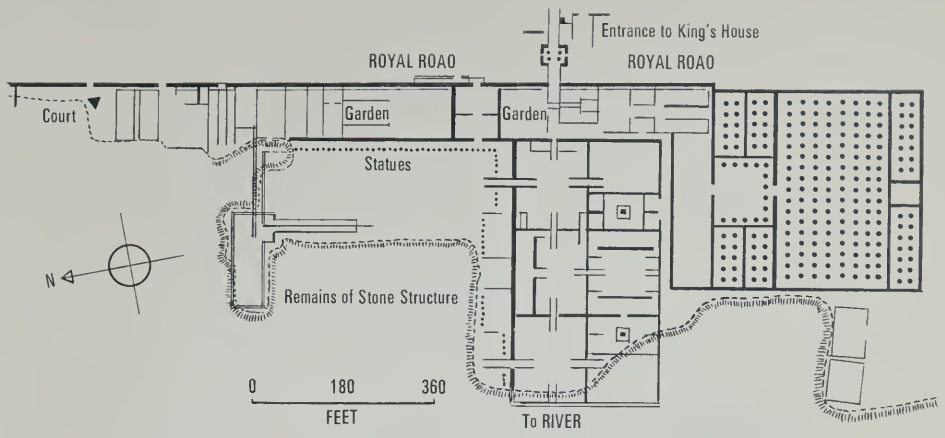


Diagram 3. The Tel el Amarna Palace

Diagram 4. Amarna, Official Central Quarter.
Find the location of the palace.

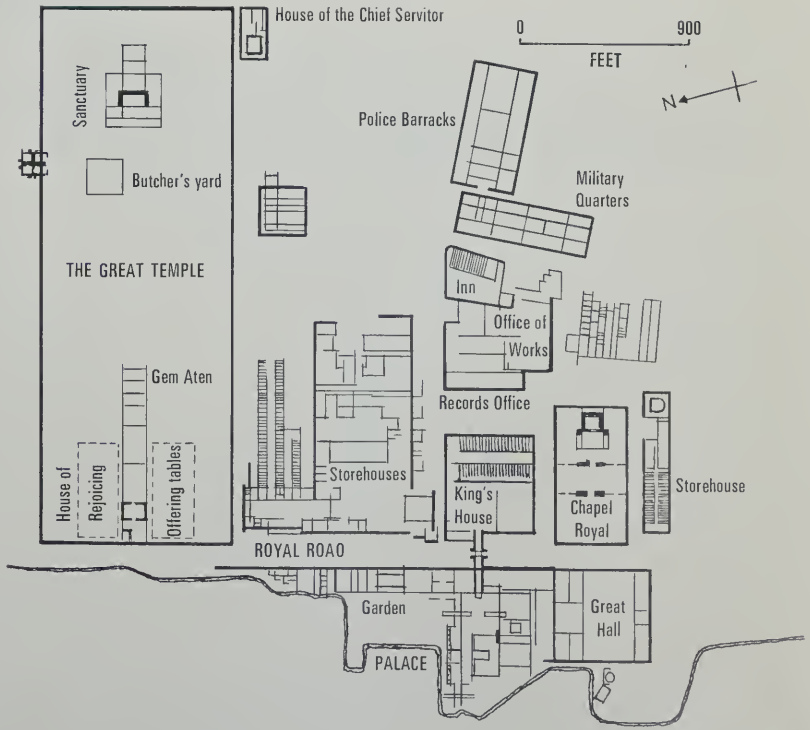


Diagram 5. Amarna, General Plan of the Town.
Find the Official Quarter.

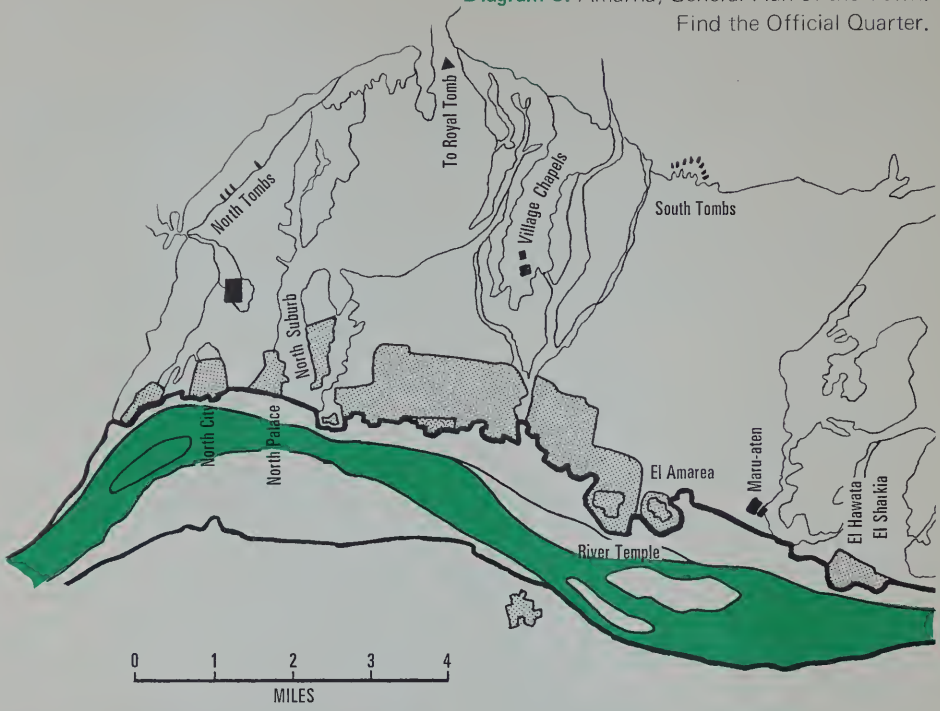


Diagram 6. The main towns of Egypt.

I finally finish sorting out my thoughts and putting the evidence together. Dad and Dr. El Amar approve of my work. I tell them how pleased I am. "I'm very sure now that what the map shows as a Cradle of Civilization **is** very old and must have been very great. But there are still things I don't understand. It's hard to believe that the hot dry land I saw when I flew into Cairo could produce enough food for so many people in so many towns. How is it done?"

Dr. El Amar's dark face breaks into a smile, "There is a proverb, my child, 'A curious questioning mind is a precious possession; be sure to develop it carefully.' I will answer your question. Have you heard the saying that Egypt is the "Gift of the Nile?" Why not leave this work now and come for a sail in a **Dhow** on the Nile this afternoon? There we can think about the River and how it might have helped the ancient Egyptians. Besides, we will see much of modern Cairo from a different point of view and at the same time be cooled by the river breeze."

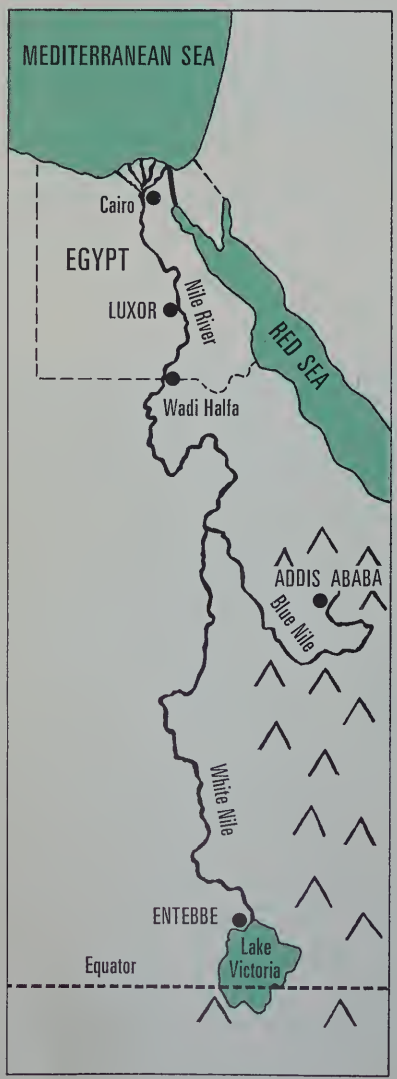
Before Dr. El Amar finishes speaking, I'm on my way out of the door!

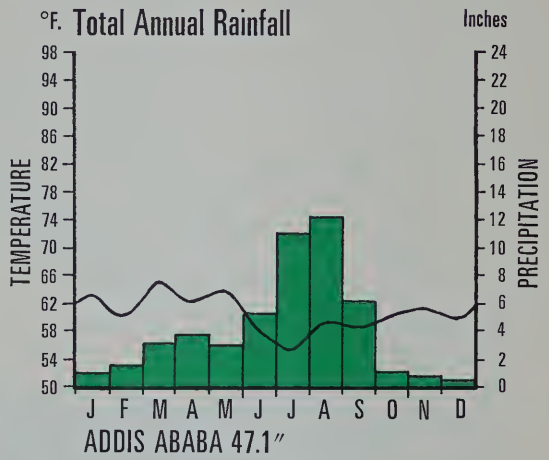
A dhow on the Nile

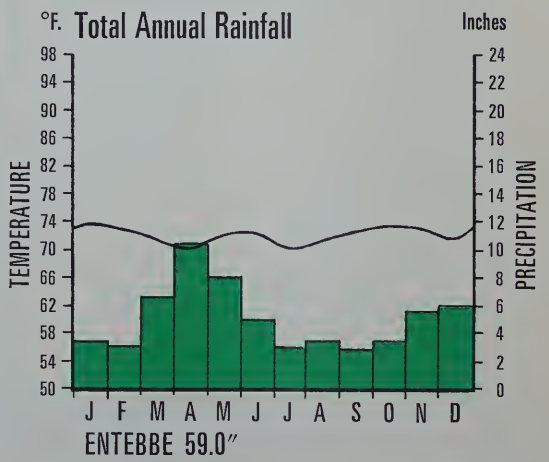
The Reason Why

The next morning we return to the office. Father is busy preparing for a trip which will take us to Giza. In order to keep me busy learning more about Egypt, he presents me with another of his puzzles. "Take these, look at them and work them through with me," he says.

Nile River: Associated Climate Statistics







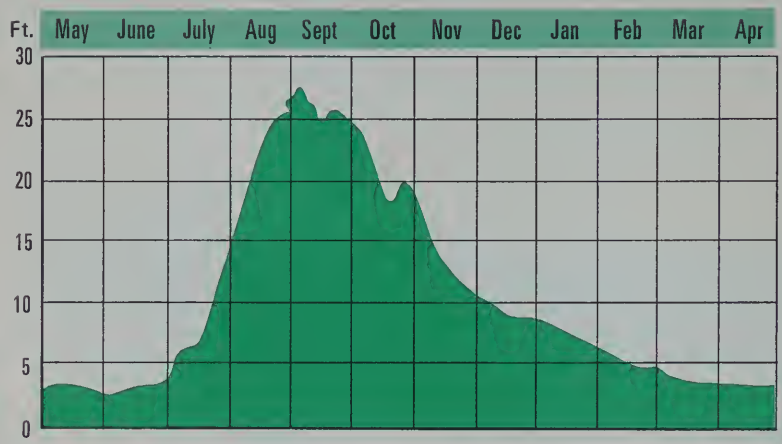
1. Identify the **direction of flow** of the River.
2. Show the **sources** of the Nile.
3. Look closely at the rainfall graphs for Addis Ababa and Entebbe. Complete the following rainfall chart.

RAINFALL CHART	J	F	M	A	M	J	J	A	S	O	N	D
Addis Ababa												
Entebbe												
Monthly Totals												

4. Circle the months when the greatest flow of water should be passing down the Nile.
5. What word best explains what is happening to the Nile River during the months you have circled?
6. Is it likely to happen at any other time of the year? Explain by using the rainfall chart.

The Flooding of the Nile

Study the flow chart for the Nile River taken at Wadi Halfa.



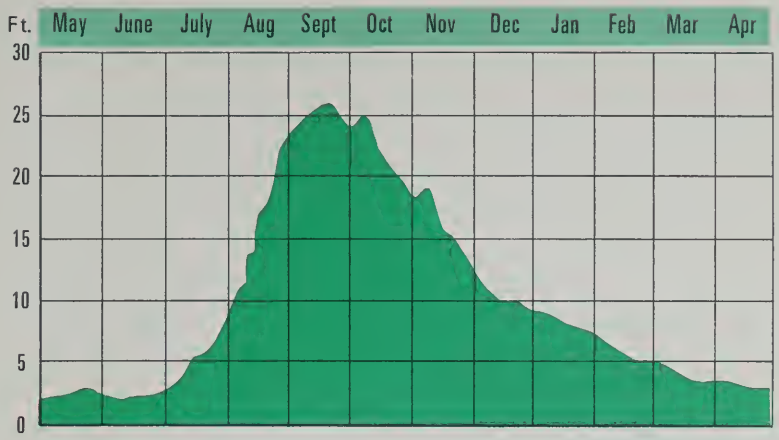
Flow Chart of the Nile River at Wadi Halfa

At what level is the Nile River when not in flood?
When does the flood season begin?
When does it end?
To what height do the flood waters reach?

Look back at your predictions of the flood season from your study of the rainfall charts of the source areas.

Are there any noticable differences between the time of the flood season at Wadi Halfa and the time of the flood season at Addis Ababa and Entebbe?

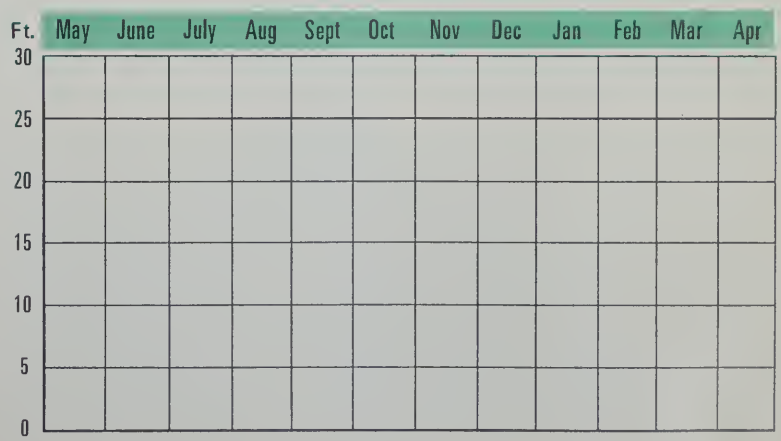
How can you account for these differences?



Flow Chart of the Nile River at Luxor

When does the flood **peak** at Luxor?
Why does this happen at a different time than at Wadi Halfa?
Study both your map and your flow charts and construct another flow chart for the Nile River at Cairo.

Flow Chart for the Nile River at Cairo



Did You Know?
. . . the Egyptians were the first people to invent a calendar of 365 days on which our own calendar is based.

The Egyptians soon realized that the Nile floods returned to their lands at fairly regular times. From this fact they invented one of the earliest known Calendars. This was an indication of their advanced civilization. They divided their year into three seasons, determined by the behaviour of the Nile River.

FLOOD SEASON	
EMERGENCE OF THE FIELDS AND THE WET SOIL SEASON.	
DROUGHT SEASON	

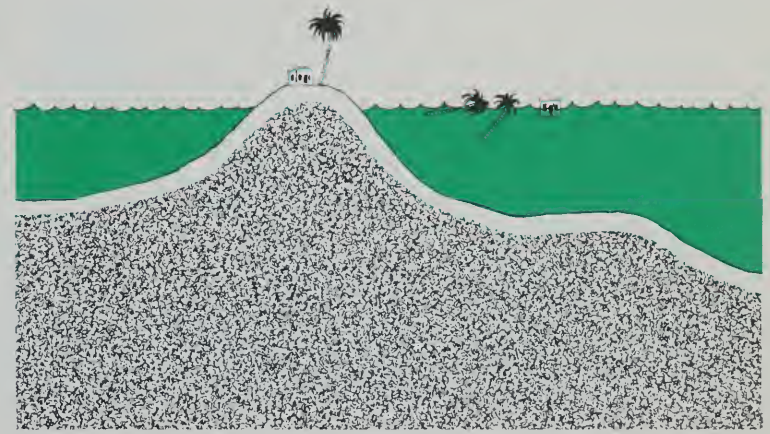
Beside each of the Egyptian seasons, fill in the months when you think each season would begin and end.
Would a Calendar based on a flooding river create any problems?
(Compare again your flow charts for Wadi Halfa, Luxor, and Cairo.)

Did You Know?
. . . a great number of workers were needed each year to control the floods of the Nile by building canals, dikes, and catch basins. This labour force had to be conscripted which made a strong central government necessary and led to the rise of the Pharoahs.

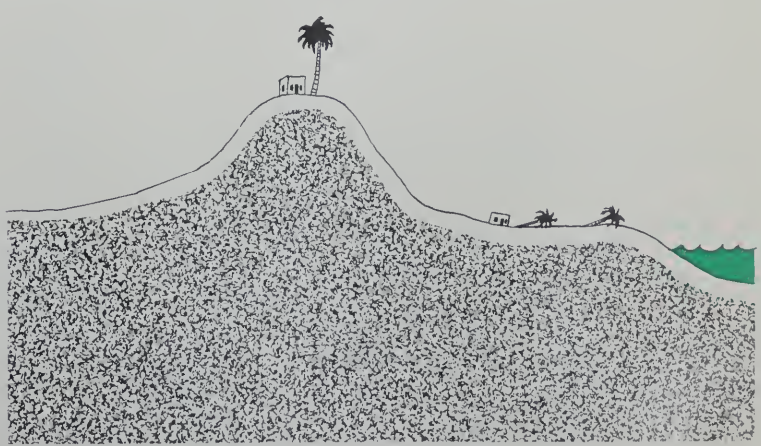
Examine the sketches of the Nile River near Luxor
a) during the flood b) after the flood.

1. What harmful effects could such floods create here?
2. The Egyptian farmers considered the floods to be beneficial. Suggest why.
3. Look up the words **erode**, **deposits**, and **sediments** in your dictionary. Now use them to improve your answers to questions 1 and 2.
4. Look at your map of the Nile River and suggest from where these sediments came.

The Nile at Luxor
During Flood



After the Flood

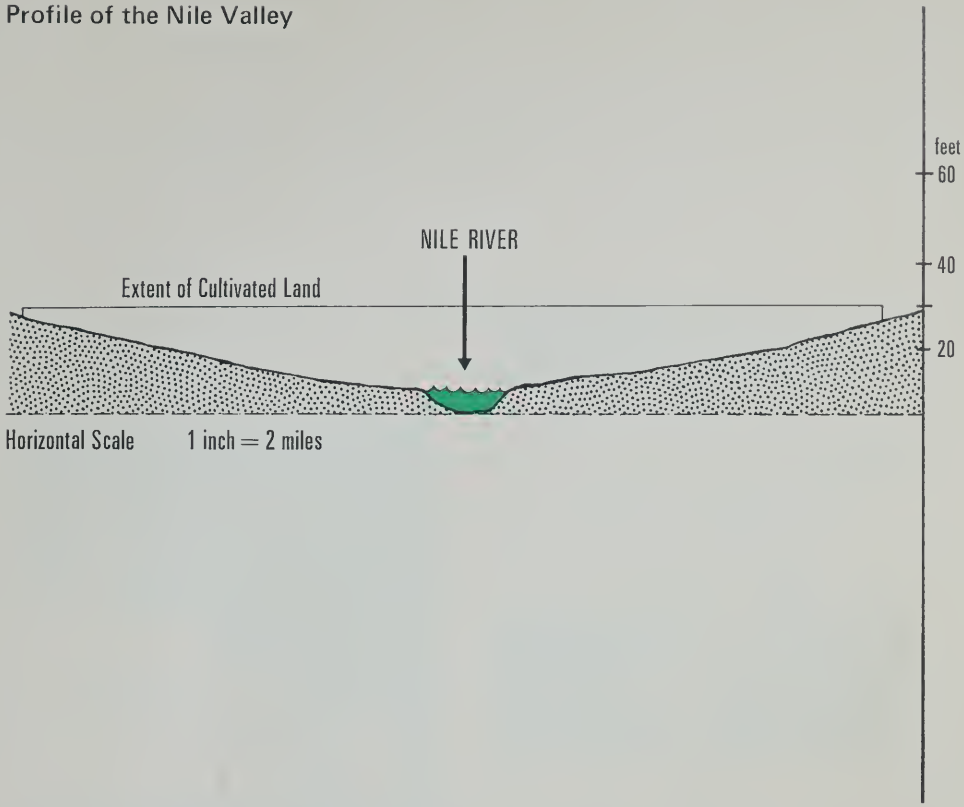


Study the picture of Egyptians working in their fields.
What are they doing to their land?
Why would they be doing this?
Suggest the season in which this work would be done.

Did You Know?

. . . each year the flooding of the Nile wiped out many old landmarks. Ditches and canals had to be dug again and the property measured. This was done by surveyors or "rope stretchers" who divided the land into squares and triangles and laid the basis for mathematics and geometry.
See page 46.

Profile of the Nile Valley



Above is a **profile** of the Nile Valley.
About how far from the Nile River has the cultivated land been extended?
Mark on the profile the level to which the waters of the Nile would reach at peak flood season. (Use your flow charts.)
The Egyptian farmers depended upon the flood waters to bring the needed moisture to their dry lands. Therefore how could it be that the cultivated land extends beyond the region reached by the flood waters?

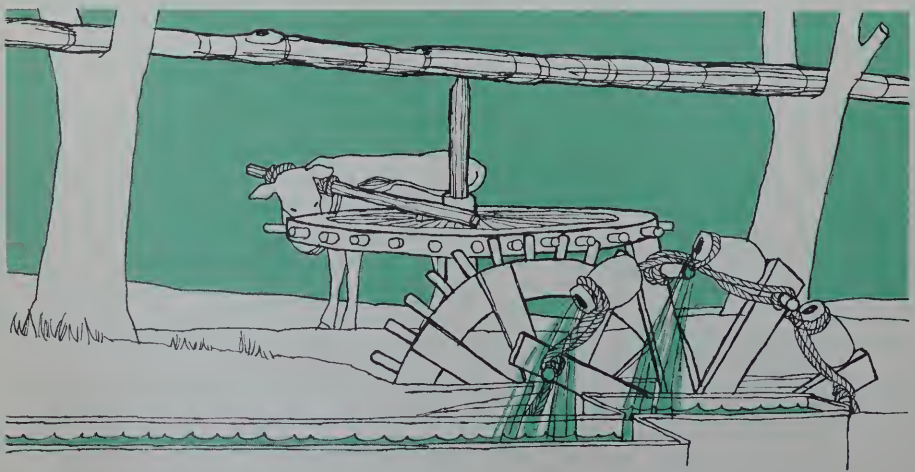
Did You Know?
. . . Beyond the land that could be reached by the life-giving water of the Nile, lay only the desert which the peasants feared as the home of the dead.

Below are some methods used by the Egyptians to raise water to higher land. Explain how each of these ancient machines operated.

Archimedian screw

Sakia

Shaduf



Things To Do

The shaduf is a very simple tool for lifting water. Try to make a model of one and see if you can get water out of a sink or pail with it.

Another name for the shaduf is a "well-sweep."

Pretend that you are an Egyptian farmer. Would you plant your crops before or after the flood season? What would be the advantages of your choice?

The Egyptians planted after the floods. What month would that be at Wadi Halfa, at Luxor, at Cairo?

Check the climatic graphs to see how warm it would be at that time of year, and to predict the length of the growing season.

Would the farmers have time to plant and harvest more than one crop each year?

All of the crops listed below are grown in Egypt today. Some of these cannot be grown in our country. Why?

cotton	clover	citrus fruit	peanuts
rice	sugar cane	bananas	sesame
corn	onions	grapes	fenugreek
wheat	beans	figs	
barley	potatoes	pears	
sorghum	tomatoes	apples	
millet	melons	dates	

Many of these crops were not grown by the early Egyptians.

Try to decide which crops they did grow by reading stories from the Bible which refer directly to Egypt. The story of Joseph, Genesis 37 to 50, is one.

What other ideas about Egyptian agriculture do you get from this story?

You can also learn much about Egyptian agriculture by examining tomb paintings which you will be doing in the next chapter.

What have you learned about the way the Egyptian farmers have managed the Nile Floods that makes you think they were part of an advanced civilization?

The Egyptians Learn to Farm

The Geography lessons are over but I still have some questions. "You know, I always thought Geography a bit of a bore, but what I have learned really interests me. Here I found a wonderful River that explains how a marvelous civilization grew up along its banks. It all fits together. Without Geography lessons, I would never have believed it possible."

"You're quite amusing," laughs Mustafa. "First, you won't believe anything and now you think you've learned all there is to know."

"I apologize for my son," says Dr. El Amar, "he speaks without thought, but he also means no harm."

"No need to apologize," replies Dad, "my daughter deserves what he said. You see, my dear, you may have discovered the key to Egypt's civilization. But the River is not the whole answer. If the people who settled here had not made good use of the soil, they would never have developed a great civilization. What the Egyptians did with what the River offered them is the second key to their civilization. You already know how they tried to retain the water supply in skilful ways; but then crops had to be planted and tended. The Egyptian farmer's skill in growing crops is just as important to the food supply as the **silts** and moisture."

Osiris, a god of the earth and vegetation, symbolized in his death the yearly drought and in his miraculous rebirth the periodic flooding of the Nile and growth of the grain.

In Search of the Painting

Early next morning we are awakened by the noisy bleat of the Jeep's horn and Dad shouting, "Come on, I'm taking you over to the West bank of the river to look at that tomb painting."

In ten minutes we are bumping down the river road. I feel chilled to the bone and hungry as an old bear. My father sees that I look angry, and I guess I am.

"See here, Alison, if you want to be an archeologist, you will have to get used to this kind of life. In these hot countries, it is best to get started before the sun rises. Breakfast is something you can get later, that is if we have time."

A small ferryboat takes us lazily over to the west bank of the River. We barely roll the Jeep off the ferry when suddenly Dad jams on the brakes. A little River Temple is apparently the only cause for this sudden stop.

"Look on the East wall of the Temple," directs Dad. "See there, that's one of the best carvings you'll see of Him."

What apparently was "Him" was a stiff looking figure with a fat stomach and a tray piled full of stuff. Dr. El Amar must have seen my lack of interest for he leaned over and said in his soft voice, "What your father asks you to examine is the portrayal of the very thing you have been studying. This is Hapi, the God

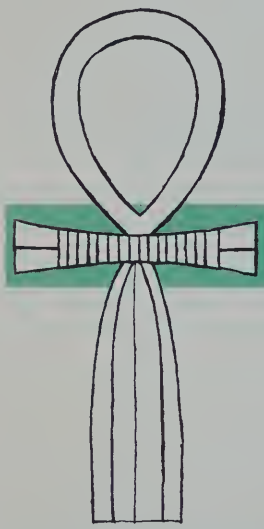
Re, the sun god of Heliopolis, became a state deity in the Fifth Dynasty. Some traditions made him the creator of men, and the Egyptians called themselves "the cattle of Re."

of the Nile. That is how the ancient Egyptians expressed, indeed worshipped, the Nile River."

I put one foot out the side of the jeep with the intention of getting a closer look, but that's as far as I get.

"No, no, Alison, there isn't time. I have several drawings of this you can study back at the office."

And so with a sudden squeal of tires, the Jeep lurches forward and begins the climb up the west slope of the valley. It is only a short run to the rim of the desert where again we stop and this time we do get out. Dad points to the nearby cliffs.



Ankh, the Symbol of Life

Did You Know?

. . . This sign or symbol is seen in the portrayal of Hapi the god of the Nile. (See page 37). It is also found in almost every Egyptian tomb. Can you find out what it stands for? When you do, ask yourself, "Why is it associated with Hapi?"

"See that entrance at the foot of the cliff? That is the entrance to an ancient tomb. If the two of you can find your way into the Burial Chamber, on one of the walls is a very well preserved painting showing Egyptian agriculture. Why not go in and study it and tell me tonight what you learn? Dr. El Amar and I have work to do farther along the road. We'll pick you up here in exactly three hours. Oh, by the way, here's your breakfast and the equipment you may need."

He tosses out a small sack, waves a goodbye hand and leaves us choking in a cloud of powdery desert churned up by the Jeep's spinning wheels.

I open the sack. Breakfast is a big disappointment. The only food Dad has thought to put in the sack is a thermos of tea and a handful of dates. Mustafa picks up the sack, flips it over his shoulder and says, "Come on, Alison, you can't just sit there and grumble. We must get started climbing before the sun makes things unbearable."

So off we trudge in search of a Burial Chamber with a painting of some ancient farmers on its walls!

The tomb is very dark, but in the sack we find two flashlights. My beam of light comes to rest on a funeral scene that covers the entire wall.

"Oh, look at this! Look at the colours! Look at the way they drew people! I can draw better than that.

"Hold on, Miss Alison Ward, we didn't come here to be art critics; we came to see if the art can be used as a piece of evidence to tell us how skilful the Egyptians were in using the land. Anyway, that picture you are looking at is about a funeral, so let's look for the right picture."

Moments go by as we search the walls. Then I call out, my voice sounding almost ghostlike as it comes out of the darkness, "I've found it! At least I think I've found it."

Mustafa hurries over to me and studies the new find. He nods.

"Yes, I think this is the one we are looking for. But let's start to study it very carefully. You know what your Dad is like. He'll ask us questions and we'll look silly if we can't come up with the answers."

Time goes by and our flashlights begin to dim.

"Come on, Alison, I think we've done all we can and I don't want to try finding my way out of here in the dark. Besides, it will take some time to get back to the road."

That evening Dad finds us comparing notes.

"Well, well, you are real experts I see. You've both come away from the tomb with sketches and notes. What are you drawing, Alison?"

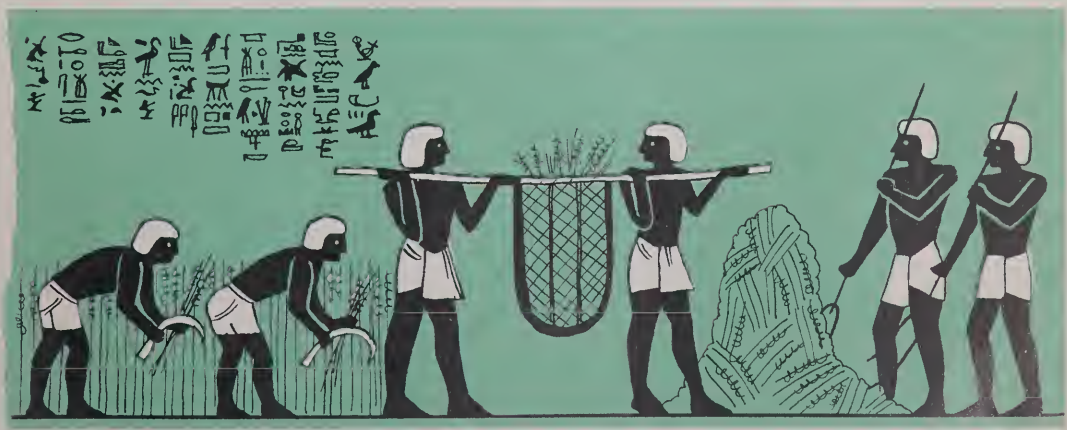
I hold up a sketch I have just completed. "This is what I think one of the tools looks like that we saw on a wall painting. If we can identify the tools and what each tool does, we think we can figure out what the painting is trying to say."

"That's right, Dr. Ward. We're making large drawings of each tool and we're checking in the dictionary and other books to see if our ideas are correct."

Examining our work, Dad murmurs: "Hm, let me see how the sketches you have made go together, that is, how the artist put them together."

Mustafa scratches his head. "I don't think Alison can figure it out."

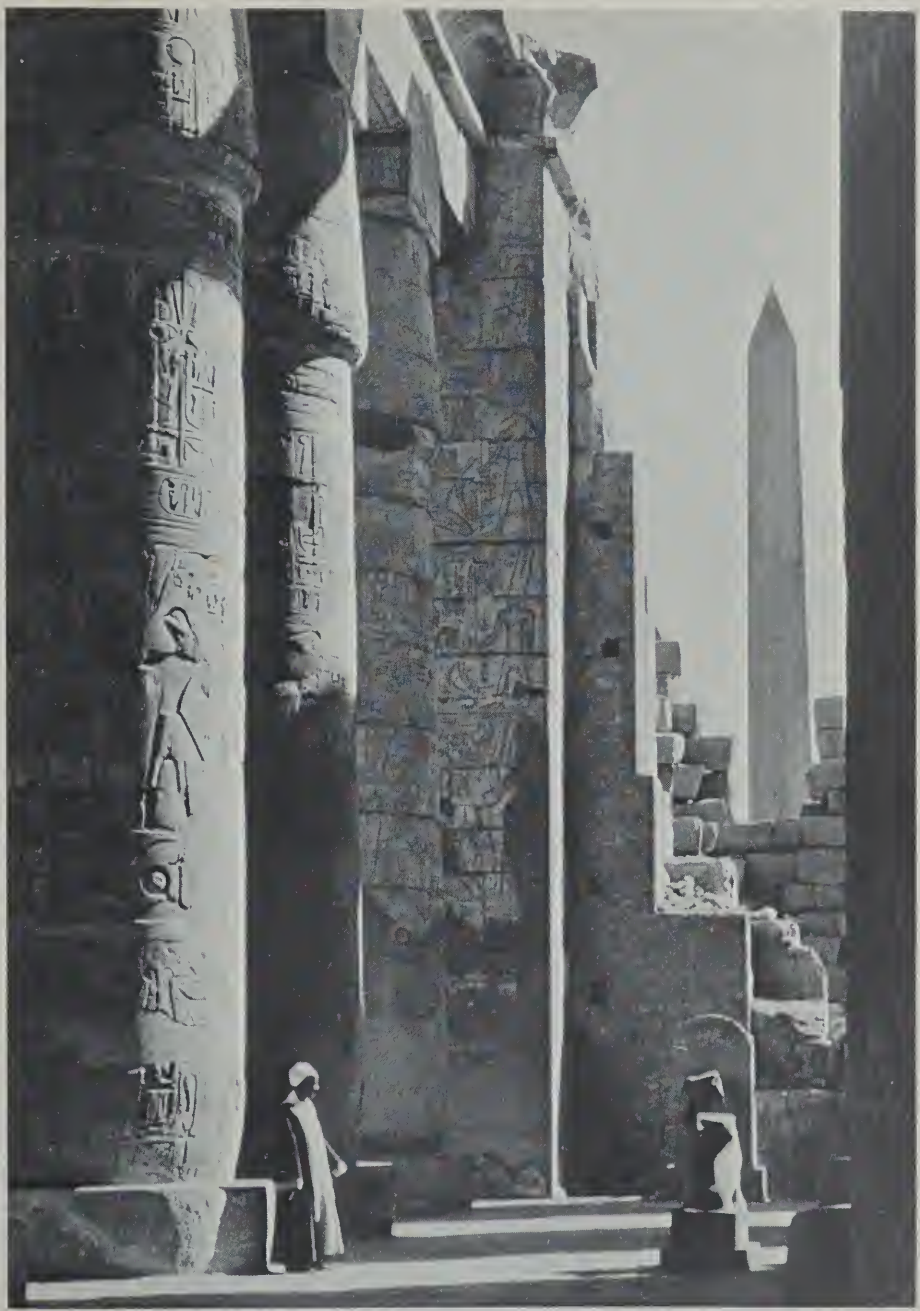
The pictures you see here are made up of the sketches that Alison and Mustafa made of the wall painting. They are in the exact order in which they were found in the tomb. The questions on page 34 are similar to those that Mustafa and Alison asked themselves and soon were able to answer. Some of the questions were posed by Dr. Ward. See if you can answer them.



"Oh, for Pete's sake, Mustafa, anybody should know that you start with the top left and read across just like a comic strip. But whoever painted this didn't seem to know enough to do that. He seems to start someplace else. Maybe he was just dumb."

"There you go again, Alison. Just because it doesn't read like your comic strips, you think Egyptians are stupid. Let's give the artist a chance. Maybe he'll make more sense than you give him credit for."

1. Identify the various activities found in the painting. Also explain how the activity is done and what tools are used to do it.
2. The picture has no title. Suggest one.
3. Having studied the activity scene in the painting, find out if there is a story or order to the activities.
4. What comparison can be made between the tools seen here and the food gathering tools used by Nomads? Give examples of the tools of both groups of people.
5. Why do we say that the set of tools that is being used by the Egyptians is better than the tools used by Nomadic peoples to gather food?
6. Can you suggest a set of crop-producing tools or machines that would be better than those used by the Egyptians? In what ways do you believe your choice to be an improvement?
7. Some early peoples have better tools than others. Why are tools so important to man's way of life?
8. The tools used by the Egyptians to produce food were still in use by Ontario farmers in the year 1820. But in the last 150 years, the tools used to produce crops have greatly changed.
   a) What are the modern tools or machines that have replaced the old tools?
   b) What observation might be made about man and his way of life when you consider the two periods (i) 3,000 B.C. to 1820? (ii) 1820 to 1970?
   c) Show this graphically.
9. We have dug up other ancient tools used by the Egyptians such as saws, chisels, hammers. What does this tell us about the Egyptian's food-producing tools and way of life?
10. Tools are closely related to man's improving his way of life. Is the invention of new and improved tools always to the good or can it have some bad effects?
11. The shift from a Nomadic life to community living is an important step forward in improving our way of life, but is this change good in all ways or does it have some bad effects?



The temple of Amon at Karnak (see pp. 73 and 76) is the largest and best known in Egypt. The walls and columns are covered with hieroglyphics. In the background is Hatshepsut's obelisk.

The Gifts of the Nile

A few days after the journey to see the tomb paintings, Dr. Ward asked Alison and Mustafa to come to his office. From a file of sketches on his desk he singled out one and held it up for them to see.

"You know this chap, I believe."

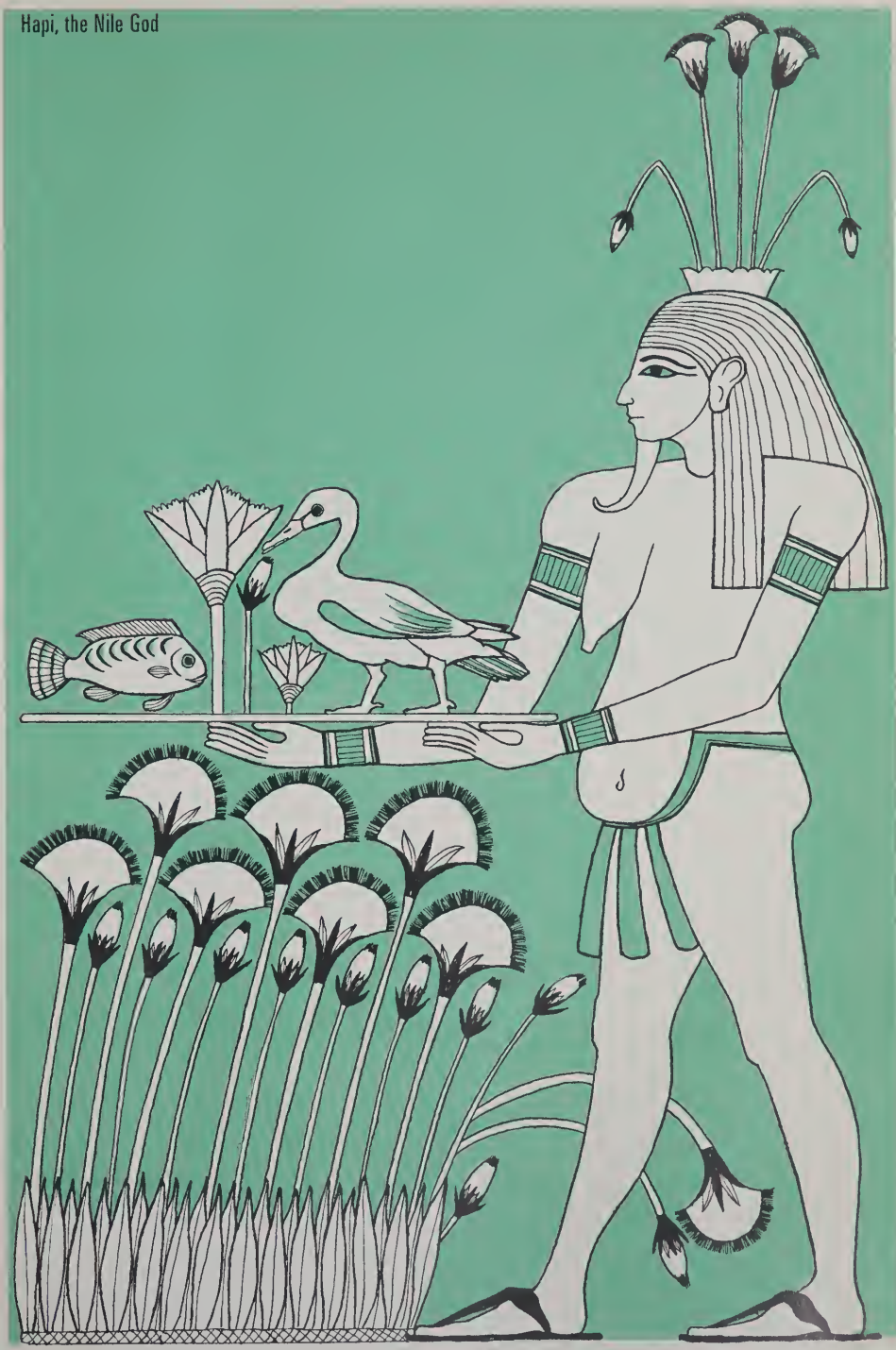
"Why yes, that's Hapi, the Nile God, just as we saw him on the temple wall."

"Yes, I thought perhaps this would be a good time to look at Hapi. Hapi poses a couple of interesting questions. For one thing, Alison, I recall that you said he looked fat — and you're right. All the carvings of the Nile God make him appear fat."

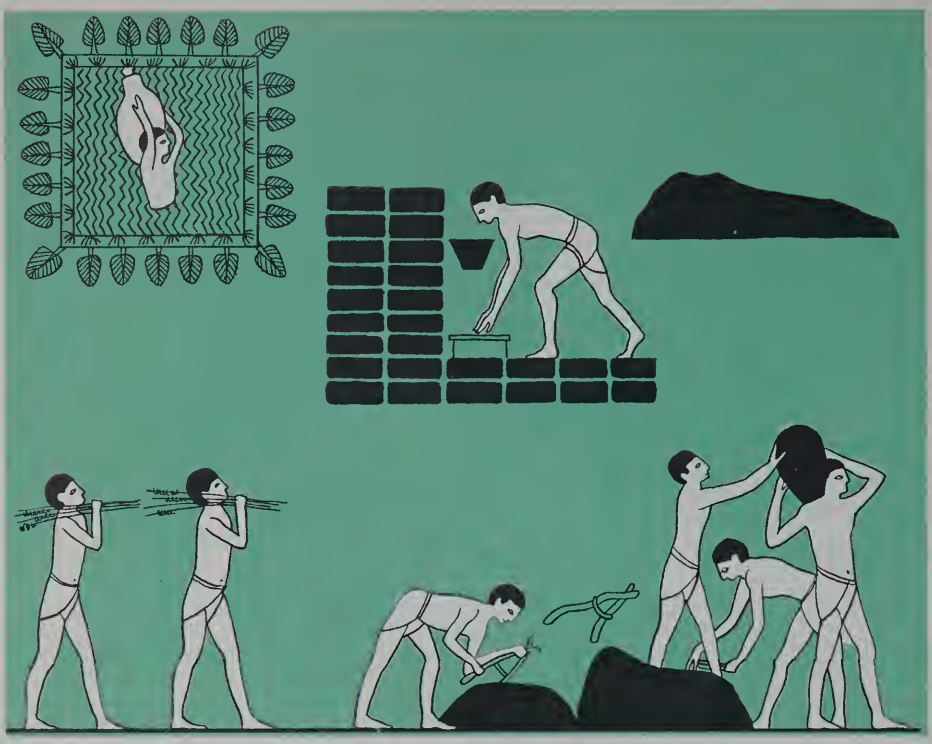
Why would this be? Think about it for a moment. And then here's a second question. At one time we quoted an ancient Greek as saying "Egypt is the Gift of the Nile." Now let's ask — Is there any evidence in the picture that our Greek writer did not invent this famous saying? Think about that, too.

Hapi is shown wearing sandals; this was a sign of wealth.
He was depicted with pendulous breasts and his hands either scattered symbols of life or held a table covered with fishes, ducks, flowers, sheaves. Several cities were named after him and he was given offerings in the temples, especially when the floods were about to rise. Thousands of statuettes of Hapi were made in gold, silver, lead, copper, turquoise, and lapis lazuli.

"But my main interest in showing you Hapi is to correct the false impression you may have. Our studies to now would make us think that the gift of the River was simply silt and water from which the Egyptian farmer learned to grow crops. Actually, the Ancients always spoke of the **gifts**, not the **gift**, of the Nile. I am going to give you a series of sketches and ask you to show how each represents another of the Gifts of the Nile."



Hapi, the Nile God



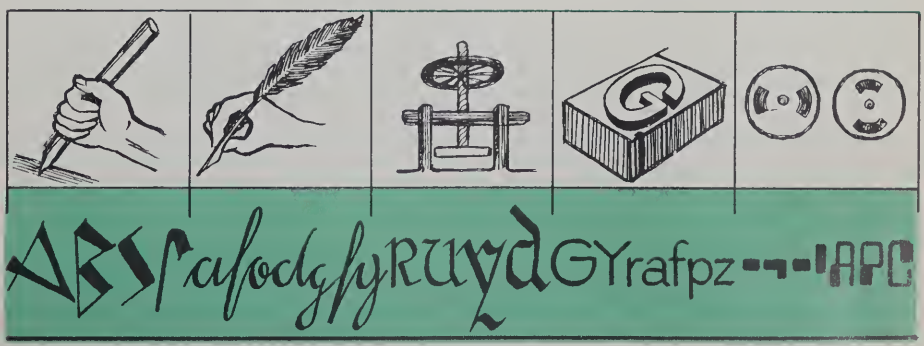
1. What title would you give this picture?
2. Explain each of the operations that is going on.
3. The activity scene here is in part dependent on agriculture, or at least what remains of agriculture, after the harvest is in. Can you explain this?
4. In a desert country like Egypt, this particular Gift of the Nile is very essential to the development of its civilization. Explain why this is so.

Did You Know?

. . . It is said in the Bible that Israelites did this work when they were in Egypt. . . . This method of building is still used today. Modern excavators have built expedition houses out of ancient bricks and added to them some made from mud on the spot.

1. Provide this picture with a title.
2. Place the various things you see in proper sequence.
3. Identify this activity with the Nile River.
4. Why is this particular gift of great importance to the development of a complex civilization?

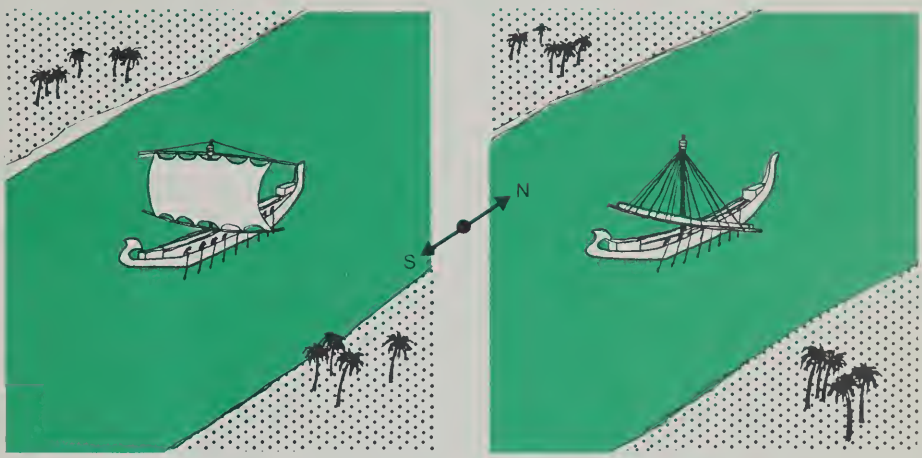
Development of Communications

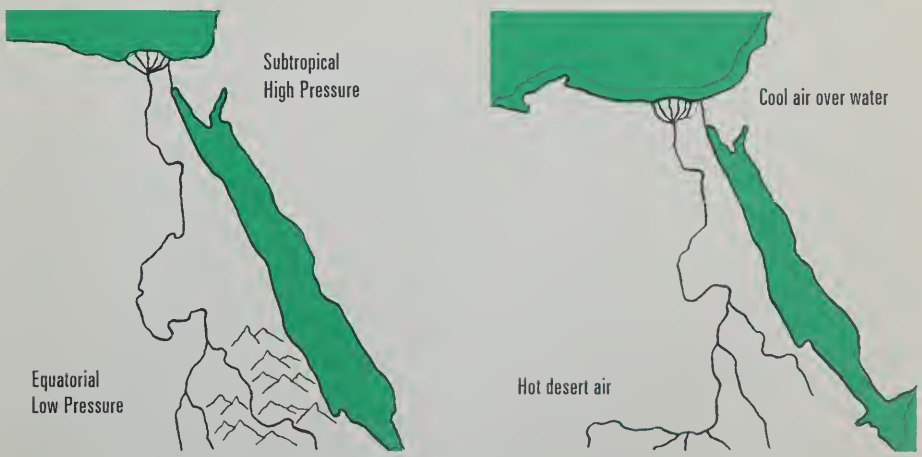


1. Give the picture a title.
2. If the Egyptians had not availed themselves of this Gift of the Nile, why would their progress have been seriously hurt?

Papyrus boat

1. How effective was the Nile River as a means of travel?
2. Study the four sketches below and you should discover that the Egyptians were very fortunate in what the River offered.





Did You Know?

. . . that the warmer air becomes, the lighter it gets? (Low Pressure)

. . . High Pressure is caused by descending air?

Did You Know?
. . . in 1969, a modern-day explorer made an ocean voyage in a papyrus boat named Ra after Egypt's sun god.

Heyerdahl's Boat of Papyrus Sails in a Search for History

Safi, Morocco, May 25, 1969.
Thor Heyerdahl, who sailed the balsa raft **Kon-Tiki** across the Pacific 22 years ago, set out on the Atlantic today in a 12-ton papyrus boat. With six companions, he hopes to test a theory that a similar trip 3000 years ago, could have accidentally carried Egyptian culture to Central America. Mr. Heyerdahl turned the voyage of the **Kon-Tiki** from Peru to Polynesia into an exciting scientific and human adventure story that sold 20 million copies in book form. He hopes to do as well with the trip of his papyrus boat — the **Ra**, named for Egypt's ancient sun god.

The **Ra**, a bloated wickerwork basket — hoisted a brown cotton sail with an orange sun disc gaudily painted in the middle. "Despite what experts told us about papyrus rotting in sea water," Mr. Heyerdahl said just before his morning departure, "The Ra looks better than ever. It will not sink . . the only problem is whether we can learn to navigate it."

The theory behind the voyage of the Ra is that . . mapless Egyptian sailors in a papriform boat — of which the Ra tries to be a faithful reproduction — were one night 3000 or 4000 years ago blown out of sight of land. "They probably never knew they had entered a different ocean after Gibraltar," Mr. Heyerdahl said. "And once they lost sight of the coast they could have been carried across the Atlantic by the current and the trade winds with no chance of turning around."

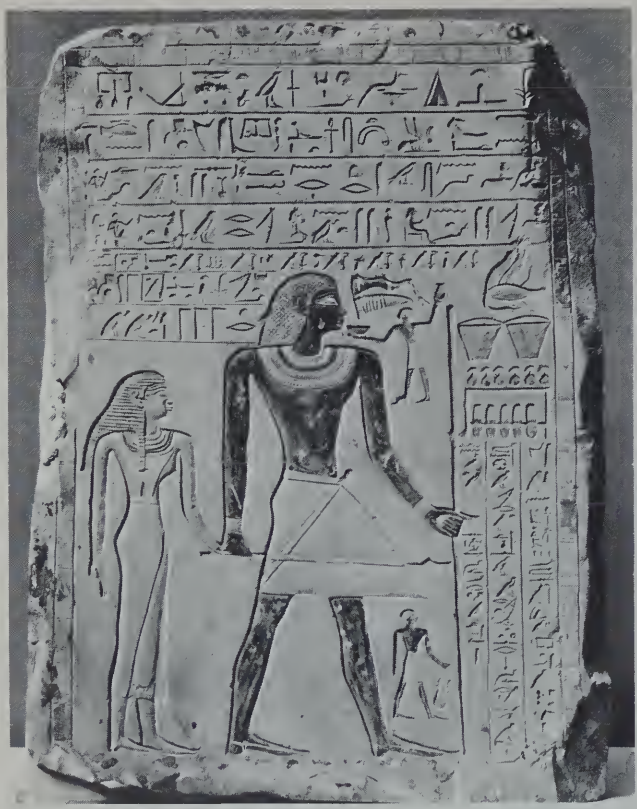
Ra2 Makes It

Bridgetown, Barbados, July 13, 1970 — Explorer Thor Heyerdahl's papyrus boat Ra2 arrived in Barbados to cheers and a calypso band last night, ending a 57-day voyage intended to prove that Egyptians could have reached the New World 3,500 years before Columbus.

Ra2's arrival in a light rain concluded a 3,273-mile voyage that began May 17 in Safi, Morocco, in Heyerdahl's second attempt to show how the Egyptians of Pharoah's time could have lashed together bundles of the reeds that grow along the Nile and used them to sail to Central America.

A similar voyage a year ago failed when Ra1 broke up in heavy seas 600 miles from Barbados and had to be abandoned.

Heyerdahl said Ra2 would be flown to Oslo, Norway, and would take its place in a museum beside Kon-Tiki, the balsa raft in which he drifted 4,000 miles from Callao, Peru, to Tahiti in 1947 when he was 33.



Did You Know?

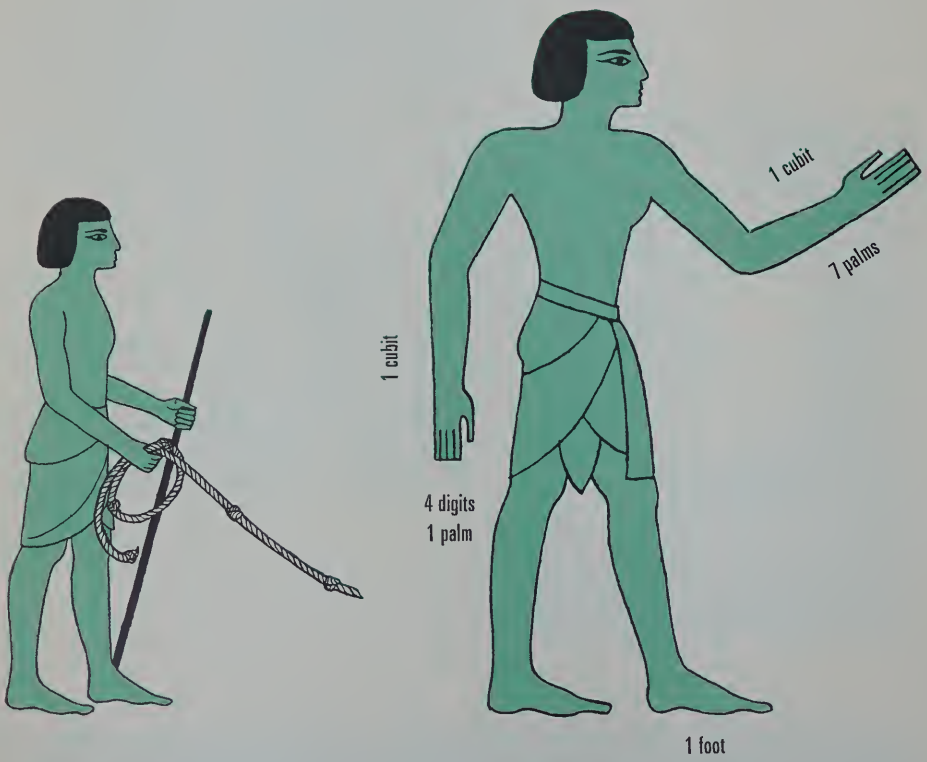
. . . Egypt was one of the first countries to invent the art of writing, around 4000 B.C. The first form of Egyptian writing developed from miniature picture symbols – **hieroglyphs**. Some of the little signs represented ideas; others sounds.

This was the language of the Egyptians for 3000 years, carved on temples and stones as in the picture above, painted on walls and on papyrus. So many hieroglyphics were added to the language that eventually two other scripts developed. For centuries this written language remained a complete mystery until a French soldier under Napoleon in 1799 picked up the now famous "Rosetta Stone". It was a fragment of stone like the one pictured above. On it was carved the same wording in three scripts, one being Greek, one hieroglyphics and one the demotic script. 23 years later, a brilliant French linguist, Champollion, deciphered the first single word, the name of the Pharoah, Ptolemy – and the code was broken!

Identify the crafts shown in these sketches.
(These gifts are not direct Gifts of the Nile; but they would have been impossible without the essential Gift the Nile offers.)

Egyptian Measurement

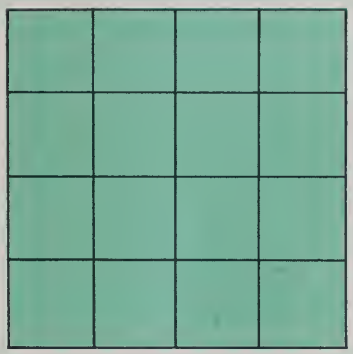
The Pharaoh has his Priests collect taxes from the farmers. The tax was based on the size of each farmer's fields. Since the floods washed away the boundary marks, the fields had to be resurveyed each year. Thus **geometry** was a necessary and practical part of early Egyptian civilization.



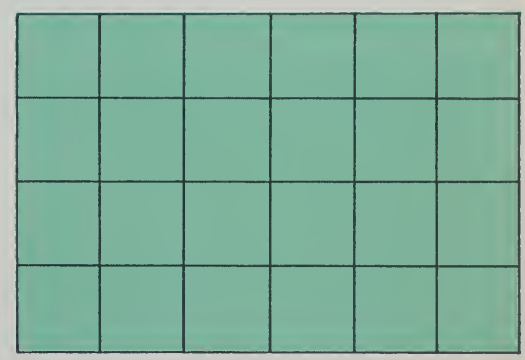
What method is the priest on the left using to measure?
The Egyptians based their measurements on the proportions of a man's body.

Measure some things in your room using the Egyptian system of measurement as shown in the picture. Can you see any problem in using this measuring system? How could you correct these problems?

To find the size of a field the Egyptians also had to understand area measurement.

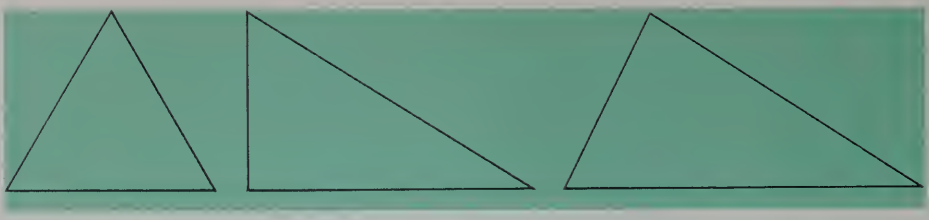


base 4
height 4
area 16

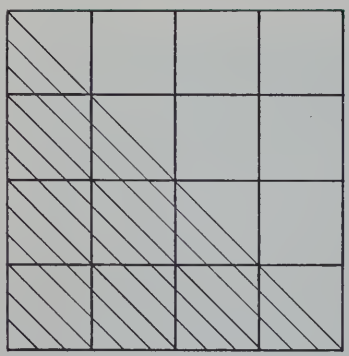


base 6
height 4
area 24

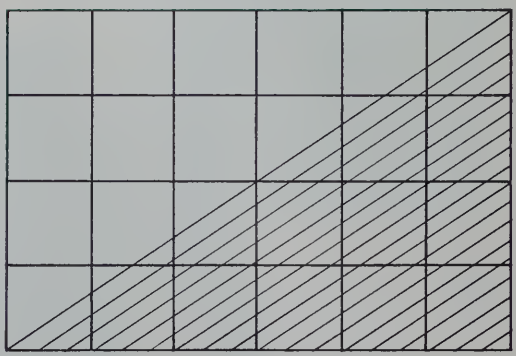
Explain how the area of the square above was determined.
Explain how the area of the rectangle above was determined. Since the Egyptian Priests could do this, the area of square or rectangular fields was easy for them to measure.
But all fields were not square or rectangular.
They also had to learn how to measure the area of triangular fields.



Discover a rule for finding the area of some triangles by looking at these pictures.

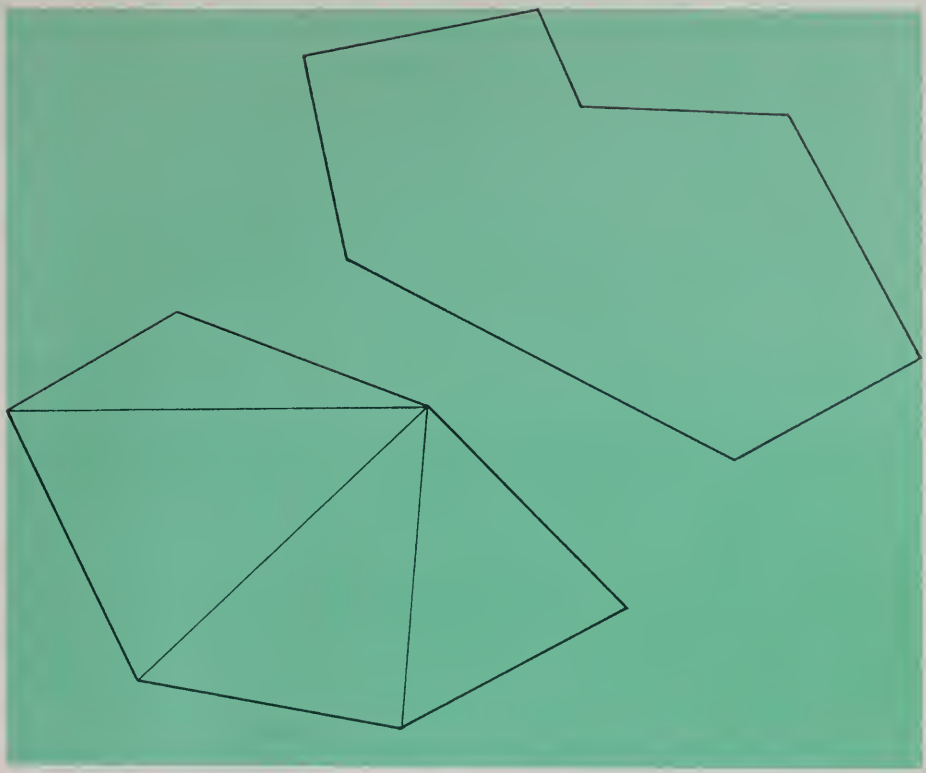


Area 8



Area 12

If you are not as clever as the early Egyptians, you may have to look in your mathematics books.
Many fields were very strange shapes but the Priests discovered the area of such fields by dividing them into a number of triangles and measuring each triangle.
Use the Egyptian method to find the area of these fields.



Things To Do

Let a group in your class divide the playground into different shaped fields. Then have your classroom Pharaoh send out his Priests to measure the fields and assess the taxes according to the size of the fields.

Study this evidence and explain how the taxes were collected: i) Bible — Exodus chapter 47
ii) Egyptian tomb paintings — page 32

The Egyptian farmers were also expected to work for their Pharaoh when they had free time. Consult your Egyptian Calendar; suggest when the farmers might fulfil their duties to the Pharaoh. Make a list of the things that the Pharaoh might have them do.

An Egyptian Warehouse

Our launch takes a bend in the River. There, in the distance, rising clearly out of the flatness of the horizon, are the great Pyramids of Giza. We are entering a land of giants. The Pyramids thrust out of the desert, great masses of rock reaching into the cloudless sky. It is breathtaking! I begin to chatter excitedly.

"How tall are they? How wide? What are they used for?"

Mustafa shakes his head. "Now you sound like the typical tourist. "Here," he reaches into his cloak and pulls out a Tourist Folder. "Most of the answers are in here."

It's not long before our launch docks and we walk up a wellworn path. We are close enough now to see the Great Pyramid of Cheops in detail. "Why, it's not perfect at all! The top doesn't really reach a point and the sides are not smooth, they're jagged. It looks like a giant set of play blocks."

Mustafa nods. "I know how you feel, but it's thousands of years old. Once it was smoothly finished in polished stone and the very top did reach a point. It must have glistened in the sun for many miles around."

It is estimated that it took 100,000 men over 20 years to build.

Most of the rock used to build the Great Pyramid was taken from the limestone quarries across the River, but other rock was brought in by boat. The major part of the structure is limestone, the chamber ceilings and arches were made of stronger granite. The facing of polished white limestone was added to the outside.

This map shows where some of the rock came from that was used to build the Pyramids.

Things To Do

Explain the mystery of the missing stone.

Why does the top of the pyramid not reach a point?

Now we are at the very base of the Great Pyramid. From this angle it looks like a giant staircase into heaven but, of course, Mustafa will laugh if I say anything like that out loud.

"Come with me, Alison. . I'll give you a race up the side!"

The blocks of stone are difficult to climb. After I scale only two or three I manage to skin my knee so I sit down quite out of breath. Let Mustafa be the winner! My fingers examine the block I am sitting on. It's huge! It must weigh tons. Nevertheless it was cut and shaped by an expert craftsman.

"Mustafa," I ask, "How on earth did they get these stones up here and how did they fit one on top of the other? They must have used a crane of some sort."

"No," he answers, "they had no mechanical aid except a plank to help pry them up or perhaps round logs on which to roll them. But if you look at the folder I gave you, there are accounts by an Ancient Greek of how it was done. Even in ancient times it was a bit of a puzzle. Modern experts doubt it was built the way the Ancient Account tells it and they have suggested other methods of raising stone. But Egypt had no pulleys, nor cranes or any sort of machine."

Alison and Mustafa wonder how the pyramid of Giza was built.

How an Ancient Greek Thought They Built the Pyramids

The Great Pyramid was considered one of the Seven Wonders of the Ancient World. Herodotus gave the Greeks this vivid description of how it was built although today we doubt whether he was right. Cheops is the Greek version of the name Khufu.

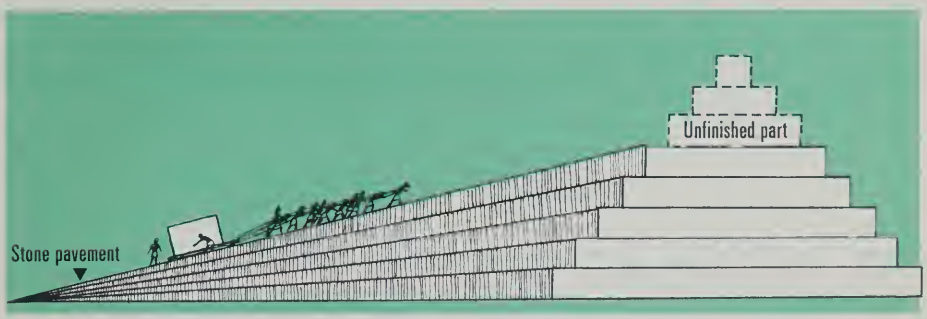
Herodotus, Persian Wars, 2.124-5

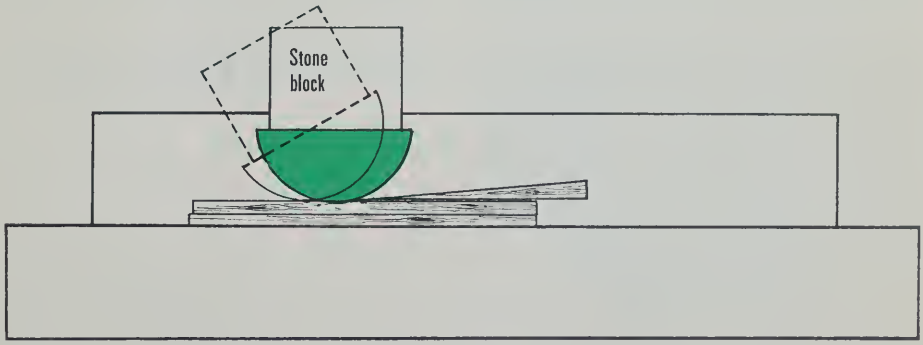
"Cheops succeeded to the throne, and closed the temples and forbade the Egyptians to offer sacrifice, compelling them instead to labour, one and all, in his service. Some were required to drag blocks of stone down to the Nile from the quarries in the Arabian range of hills; others received the blocks after they had been conveyed in boats across the River and drew them to the range of hills called the Libyan. 100,000 men laboured constantly; and were relieved every 3 months by a fresh lot. It took 10 years' oppression of the people to make the causeway . . The pyramid itself was 20 years in building. It is square, 800 feet each way, and the height the same, built entirely of polished stone, fitted together with the utmost care. The stones . . are none of them less than 30 feet in length.

The Pyramid was built in steps. After laying the stones for the base, they raised the remaining stones to their places by means of machines formed of short wooden planks. The first machine raised them from the ground to the top of the first step. On this there was another machine, which received the stone upon its arrival and conveyed it to the second step, whence a third machine advanced it still higher. Either they had as many machines as there were steps in the pyramid, or possibly they had but a single machine, which, being easily moved, was transferred from tier to tier as the stone rose — both accounts are given, and therefore I mention both. The upper portion of the pyramid was finished first, then the middle, and finally the part which was lower and nearest the ground."

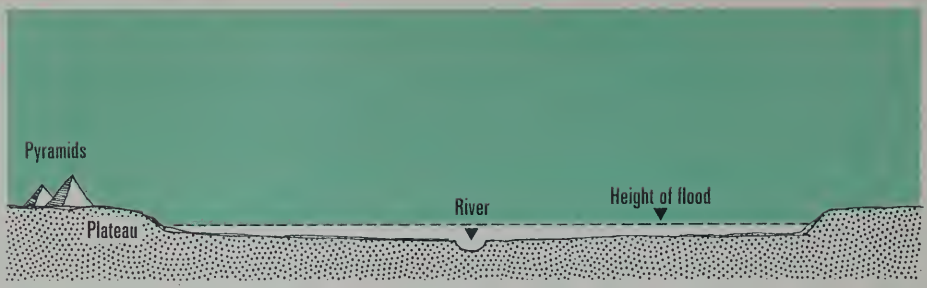
How the Great Pyramid Was Built

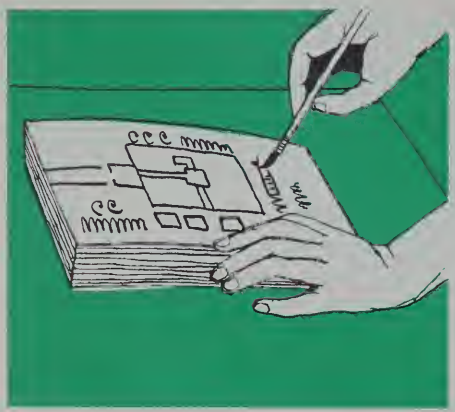
Examine each of the following diagrams and statements and suggest how each might have been important in pyramid construction.





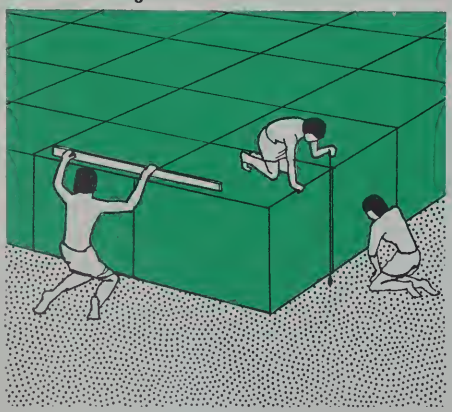
Many people were needed to work on the pyramids. Consult the Egyptian Calendar to find out when the men would be available.
The land in some areas back from the River's edge and beyond the fertile valley floor was often composed of solid rock.



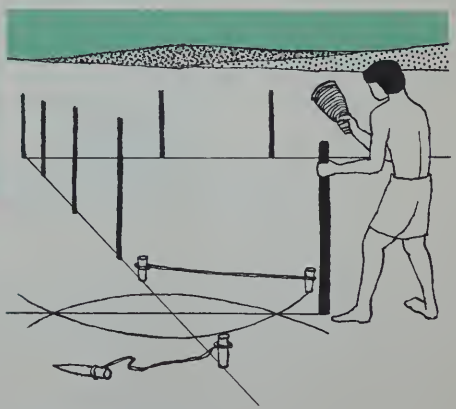


Scale Drawing

Shaping and squaring blocks



Plumbing and levelling



Staking the base and marking square corners.

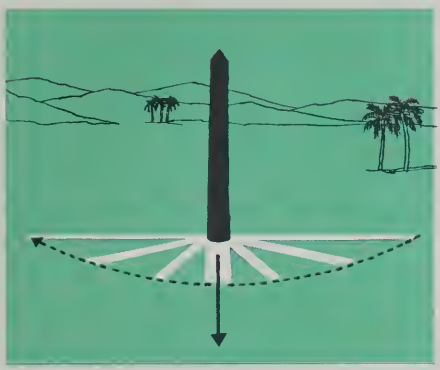
Did You Know?

. . . The plumb line and set square used by the Pyramid builders are still very important construction tools today.

. . . The scale plans that the Egyptians made on clay and papyrus were the forerunners of our modern blueprints.

Many Pyramids were built so that the four faces of the Pyramid were facing North, East, West, and South. This required the necessary skill of being able to find direction accurately. Examine the diagrams below to discover how this was done.

Finding North and South



North of the Tropic of Cancer, the sun's noon shadow points due North.

Finding East and West

Things To Do

Take a stick embedded in the ground, or a pole, and on a bright day when the shadows are clear, use the Egyptian method of finding North, South, East and West. The noon shadow is always the shortest so several should be marked on the ground in order to get the direction correct.

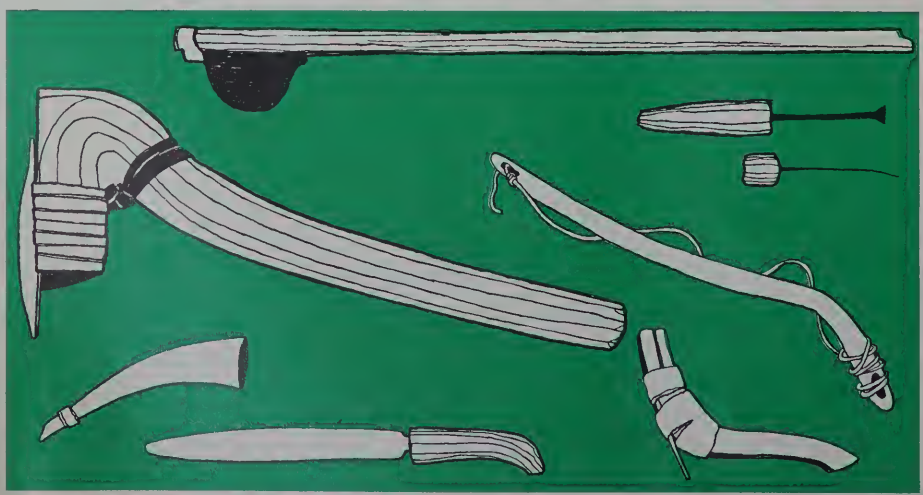
Alison studies the folder. "Well, it may be possible to figure it out, but how did they cut these giant stones so that they fitted exactly and formed a Pyramid? The sides are almost perfectly square, the foundations almost perfectly level, and the corners located perfectly in line with the points of the compass, according to this folder."

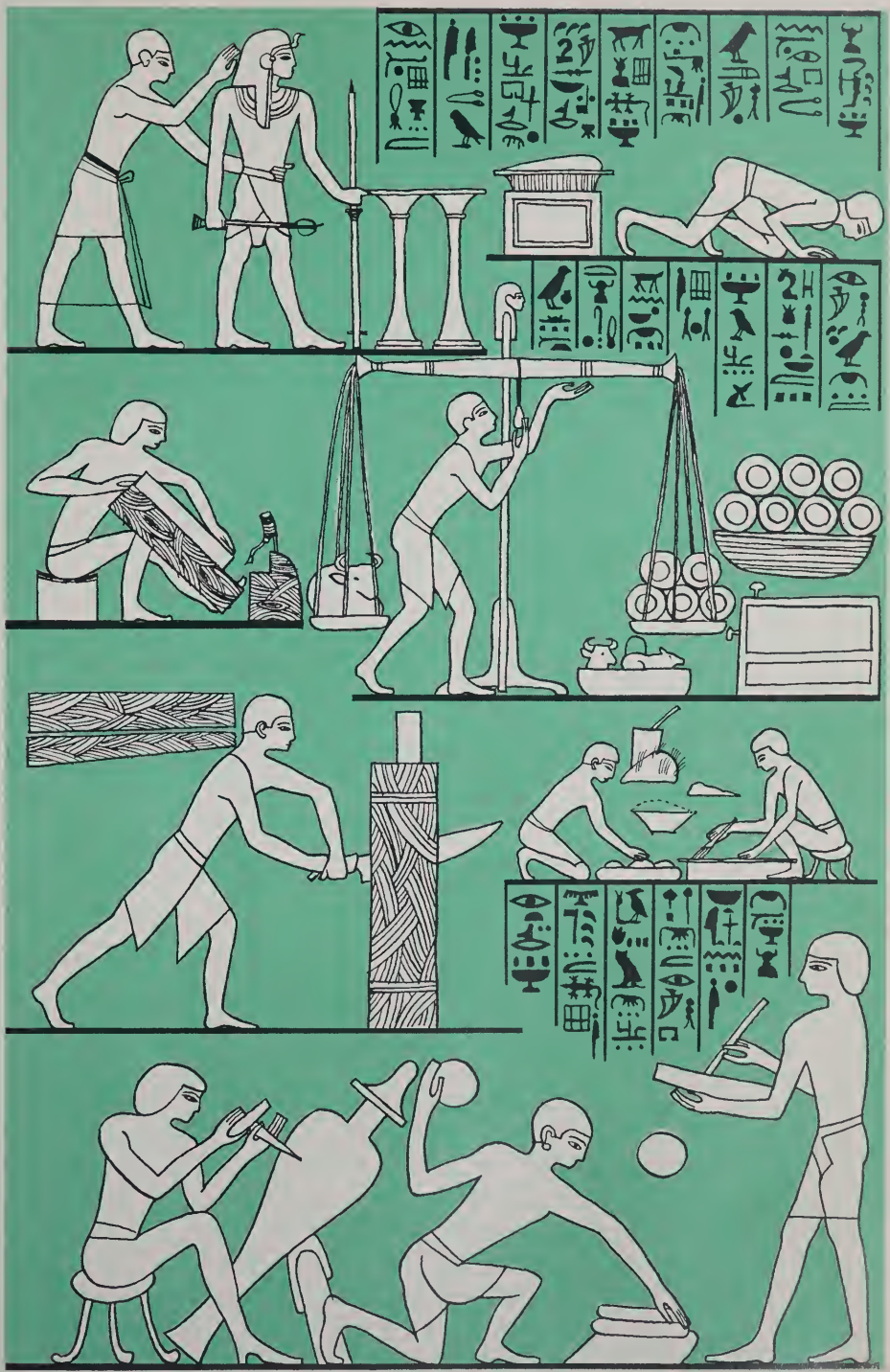
Mustafa slaps his hand. "Good for you! Most tourists are unimpressed. They expect buildings to be perfectly engineered, but when this was built it was a marvel in mathematics and engineering. When you know they used some 2,300,000 blocks of stone, it makes you realize just how exact each block had to be if the whole thing was to rise to a perfect peak in the centre. My dad says this was a real step forward. Before this Pyramid building period, the stones could not be cut and trimmed this way. Look at the folder again. There's a page showing the tools that had to be invented before such a project as this could ever be carried out."

The Space Project of today is no more fantastic than the Pyramid Project. In both cases, the tools and know-how had to be available before such projects could move ahead.

Carpenters and Stone Masons at work on the Pyramids. These sketches are taken from paintings on tomb walls. ⟶

Carpenters Tools





Another Mystery

Now my thoughts turn to another mystery. "Mustafa, where's the entrance? How do we get into the Pyramid?"

He points up. "The entrance is that small hole up at the side."

"A hole, you say. Why that's all it is, just a hole! And its location is impossible! The whole balance of the building is destroyed by sticking it off to one side."

"Not really, Alison. You see the hole was sealed over with one of the original facing stones. You'd never have been able to find it."

"That, Mustafa El Amar, is the silliest thing I've heard."

Dr. El Amar has been listening to our conversation and quietly sits down between us.

"My children, an ancient proverb says, 'What a people **are** can be discovered in what a people **build**.' Behold this ancient ruin. It is an almost flawless expression of the Egyptian society and the Egyptian mind of long ago. The Ancient World recognized that this structure was indeed a marvel, one of the Seven Wonders of the World. You see, if you talk to people who design buildings (architects) they will tell you **design** is the essential value. Design is judged according to how well it fulfils the purpose the building is used for. This Pyramid has been admired by professional builders for 5000 years. So, we'll give it an A+ for design."

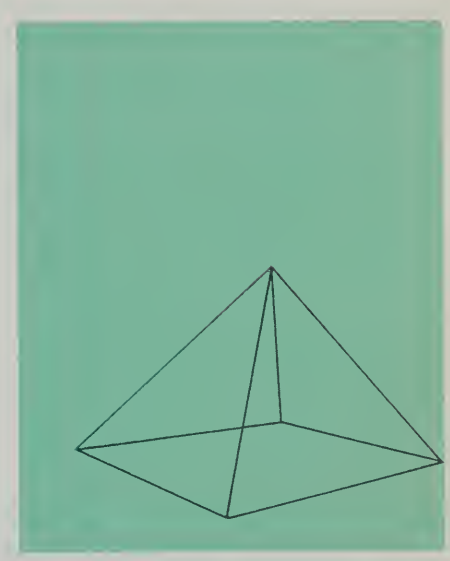
I think a minute, then shake my head. "Dr. El Amar, I respect you and all the judgments of all the ages gone before. But what I see looks like a pretty simple design. Even a child can make this design. It's made up of four straight lines meeting in a point. What is the meaning of design?"

Dr. El Amar nods. "Perhaps it is the simplicity and perfect arrangement of each line that makes this design so enduring a work of art. But now I must go; I see your father needs me."

"Well, are you satisfied?" asks Mustafa. "You know my Dad speaks with years of wisdom."

"I know. And naturally **you** believe him because he's your father and because you're Egyptian. But we could stand outside the Commerce Tower in Toronto or Place Ville Marie in Montreal and talk the same way. Didn't your father say that good design is measured in terms of good use? Well, if we went **inside** Place Ville Marie, I could at least find a properly designed entrance

Line is simply the movement of the artist's pen from one point to another.
Design is how the artist puts lines together to create an object that expresses what he wants to say.



which is more than you can say for the Pyramid. I could show you all through the building and how every inch of space is put to good use. Yet I've never heard it spoken of as a Wonder of the World!"

"Okay, okay. What you want is to go inside the Pyramid to see what the Egyptians used it for."

"Sure, why not? It's the **interior** that will show us how well the design relates to the use of the building."

"I suppose you're right. But I suspect my father would say the Ancient Egyptians wanted you to believe that the exterior design served a purpose equal to the interior. Maybe that's the mark of a great building. I don't know."

I clamber down from the large block of granite on which I've been perched.

"Come on, Mustafa, you can talk all you want but the only real proof is a tour inside. My hunch is that the Pyramid was a great big storehouse for grain. When

the Bible talks about there being 'corn in Egypt yet,' this must be where they stored it."

Mustafa laughs so hard he almost falls down the Pyramid.

"You know, Alison, you sometimes say really brilliant things, but then you come up with the craziest, silliest ideas!"

"All right, Mr. Know-it-all, just don't stand there laughing. Why don't you show me the inside? How else can I find out?"

"Look, we've only got another 20 minutes. It would take hours to go through the interior."

"Now it's my turn to laugh. It won't take 20 minutes to reach that hole and have a quick look inside."

"But you don't understand. It isn't built like a warehouse. You wouldn't see a thing. Just calm down. I'm sorry I laughed. Here, give me the folder. There's a good diagram in it. You can learn as much from that as you can by walking through the Pyramid. Look, here is the diagram; this is what it looks like inside."

I look at the drawing Mustafa has found.

"Why is most of the interior shaded? What does it mean?"

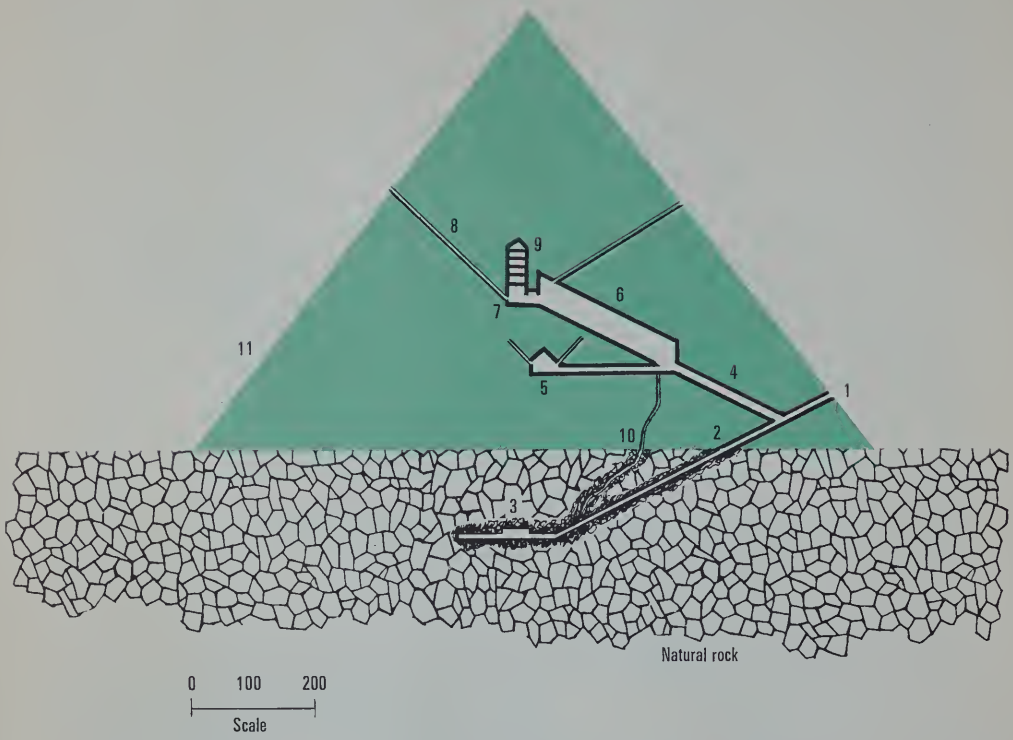
"It means that nearly all of the interior is made of solid blocks of stone."

"Are you telling me it's a warehouse for storing stone?"

Again Mustafa bursts out laughing. "Oh, Alison, you're really hung up on this being a warehouse." Suddenly he stops. "You know, your way of thinking isn't really that silly! It **does** store something — but not corn and not stone. This is becoming a good mystery; I don't think I should tell you the answer."

Anubis, the jackal-god of mummification, assisted in the rites by which a dead man was admitted to the underworld. He holds the divine sceptre carried by kings and gods.

The Great Pyramid



CHAMBERS AND GALLERIES

1. Entrance
2. Descending gallery
3. First unfinished chamber
4. Ascending gallery
5. Second unfinished chamber (Queen's)
6. Grand gallery
7. Tomb chamber (King's)
8. Shaft to surface
9. Relieving chambers
10. Escape shaft for workmen after blocking ascending gallery
11. Casing of fine white limestone

The builders changed their plans as they built the Pyramid, and two unfinished chambers may be seen below the King's Chamber which is where Khufu was to be finally laid to rest.

"But, I say impatiently, "how can I judge this building as a Wonder of the World if you don't tell me what it's used for?"

"Well, suppose you examine the interior plan more closely. The answer isn't too difficult."

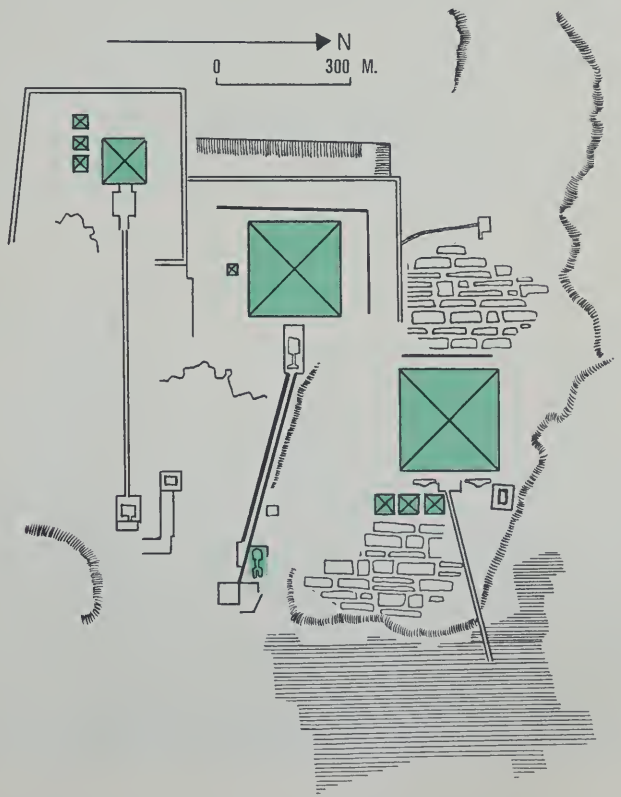
"Is the spot marked **No. 1** the same as the hole we see in the side?" Mustafa nods.

"How big is this corridor marked **No. 2**?"

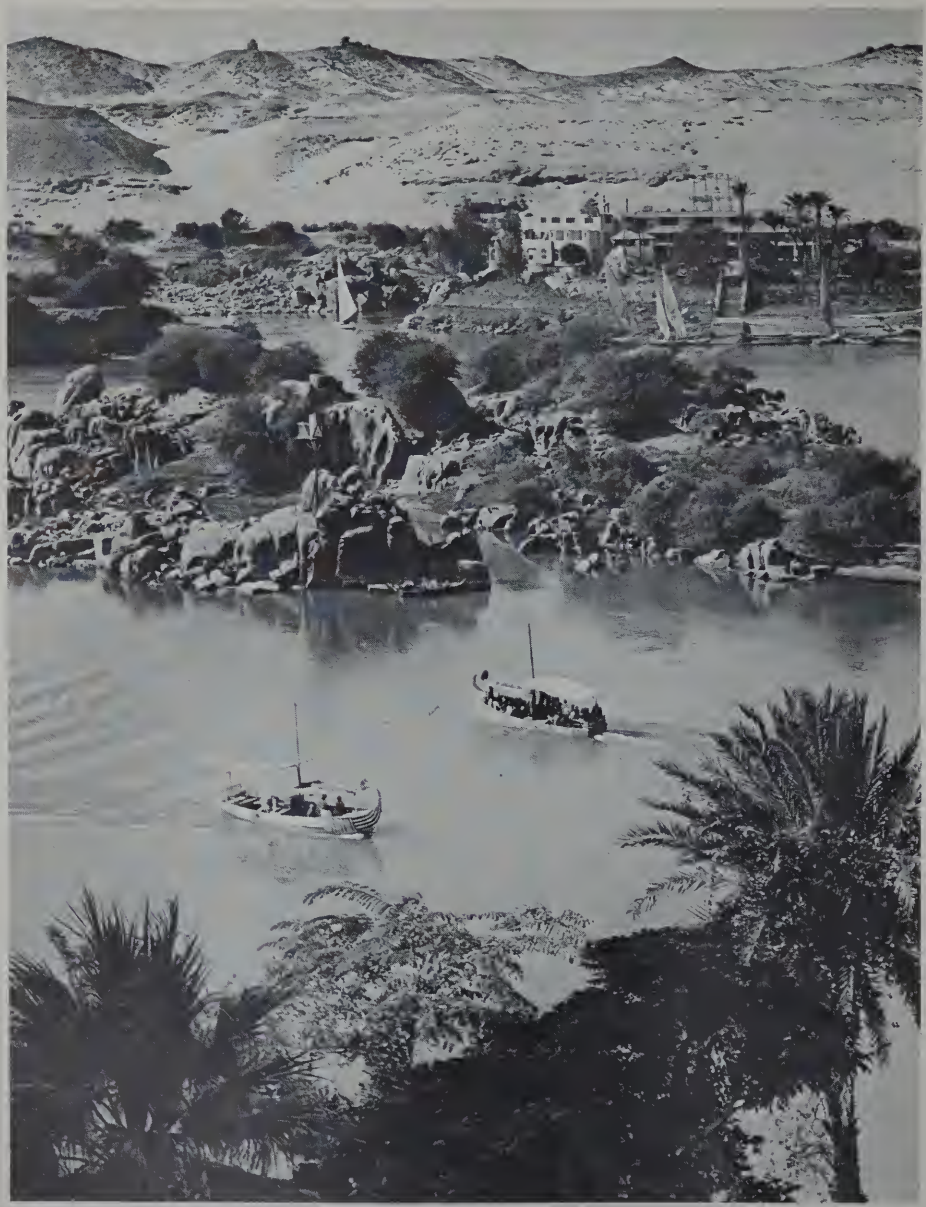
"It measures 4 feet high and 3 feet wide but it's much higher in the gallery."

The mystery deepens. I can't seem to figure it out. I'm hard at work studying the diagram when suddenly the launch horn sounds and I hear my father shouting, "Come along, Alison, hurry up; we're about to leave!"

(Of course, Alison solved the mystery and so will you!)



Descendants of Khufu continued the tradition of pyramid building. Above is a diagram of the complex as it is today.



A modern launch

On the launch trip down river, Dr. El Amar asked some more of the questions that had Alison and Mustafa thumbing through travel folders and books about the Pyramids. . . Why don't you try them?

1. Having discovered the purpose of the Pyramid, do you think it should be classed as one of the Wonders of the World? Explain.
2. Alison argued that several buildings in her own country ought to get the same rating. Do you agree?
3. Alison was puzzled by the poorly designed entrance to the Pyramid. How would you explain it to her?
4. A similar matter of design is the narrow confusing passageways. Can it be said that all this is good design?
5. Alison was surprised that it was solid rock in construction. Is this good or weak design?
6. Alison remarked that it must be a warehouse for storing stone. In what way was her observation correct?
7. The Pyramids help us to realize how far Egyptians progressed from the Nomadic way of life. Draw on the evidence found in the Tourist Folder to argue this.
8. The Pyramids are clear evidence that Egypt had a highly developed agriculture. Are there enough facts to prove this?
9. The Pyramids are a remarkable demonstration of mathematics and engineering. Review all you have previously learned to show that the Egyptians had the "know-how" to succeed.
10. Most historians assert the Pyramids are proof that the Egyptians had a very stable and efficient system of government. How would they argue this point?
11. The Pyramids symbolize man's greatness and 'man's folly.' How do you think that it reveals 'man's folly?'

Things To Do

In front of the Sphinx of Giza is a slab of granite showing the dream of King Thutmose IV. How did a dream lead to the building of the Sphinx?

The Lost Tomb

Two weeks have passed, and in that time Mustafa and I have seen a lot of Egypt. Now we are at Thebes, the greatest city of Ancient Egypt, where we have just explored the great temple of Karnak. This evening it is very hot and even Dad thinks we should relax and spend the evening cooling off. So we sit under the date palms down by the River.

It is becoming dusk. A welcome cooling breeze riffles the waters of the Nile. The setting sun glows brick red along the rim of the distant Theban hills. It is a beautiful thing to see.

"Somehow," my voice is but a whisper, "I think that locked within those hills must be the secrets of all the ages."

Dr. El Amar has been sitting rocking gently back and forth as if in a dream. He pulls his pipe from his robe, strikes a match and for a brief moment his weathered face is caught in the glow. His deepset eyes seem to be looking far back in time.

"My children, you speak of the secrets of the ages. The hills you gaze upon are very old and indeed can tell us such secrets. Would you care to hear a true story about how one of those secrets was unlocked? It's a strange story for it took place over 3000 years ago, yet the part I shall tell you happened only a few years back while I was still a young man.

Beyond those distant peaks is a very desolate valley. In this valley an English archeologist, named Howard Carter, searched in vain for a missing tomb. For you see, the valley I speak of is known as the Valley of the Kings, so named because when Thebes was in her glory the mightiest Kings of Egypt were buried in secret tombs cut out of the rocky sides of the valley.

Carter's search seemed foolish. Experts believed that all the graves had been opened and robbed many centuries before. But there was one Pharaoh of the Theban period whose grave had never been found. He was a young and unimportant King and ruled only a few years. But, Carter reasoned, he too would be buried in the valley and if the location was unknown, perhaps it had never been robbed.

Tutankhamen's Seal

Somewhere there might be a tomb filled with all the treasure of Ancient Egypt. Carter had spent many months digging up the valley; every spot had been searched. Then he had another thought.

Just below the entrance to the tomb of Rameses VI were several workers' huts. No one had ever looked beneath them. Perhaps he should try one more time.

It was not long after the huts had been removed that one of the workers found a step cut in the rock below. Digging down, the worker uncovered 16 steps and then a sealed wall. On the seal was a royal inscription spelling in ancient script **Tutankhamen**!

Carter, with trembling hands, made a small hole in the wall and peered inside. At first he could see nothing. Hot air escaping from the chamber caused the flame of his candle to flicker. But as his eyes became accustomed to the darkness, it was as if he were looking back 3000 years!

There in the dim light were strange looking beasts that seemed to form the sides of enormous gilt couches. Scattered about were beautiful caskets, their contents strewn on the ground.

Altogether in the small room there were over 100 items of furniture and clothing. Standing on guard before a

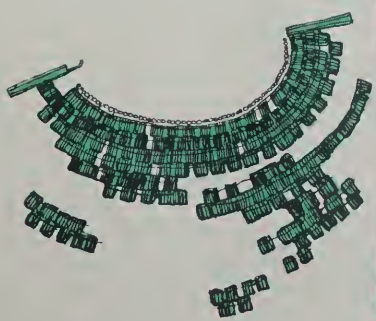
wall of the Chamber were two sentinels. The wall was sealed; beyond must surely be the body of the young King.

Carter and his men finally got into the chamber, chipped away at the sealed wall and beyond glittered a wall of gold! It was the first of four magnificent screens surrounding the coffin.

Within the four golden screens they came upon a great stone box and in it found three beautiful coffins, set one within another.

The innermost coffin was made of solid gold. Raising the lid, they finally found the body of the young Pharaoh, wrapped and anointed as was the custom. In a small adjoining room, guarded by the jackal god Anubis, was an alabaster chest containing the brain and liver of the young King. Another chest held the toys he had played with as a child. In one corner were models of ships, their prows all facing West. In another corner a mill for grinding corn and a press for making beer.

So you see, Carter had found something never before uncovered — a tomb with all its treasure untouched. His hunch to search beneath the huts unlocked a very great secret and spread before our eyes a view of the greatness of an ancient civilization."



1. List the various articles from the tomb under three headings:
   a) those items having religious meaning.
   b) those items showing political power.
   c) those items which are simply personal.
2. There are 3 basic questions man has always sought to answer:
   a) Why are we here on earth?
   b) Where are we going from here?
   c) How can we best prepare ourselves for getting there?

Using all available evidence, set down the answers you think the Ancient Egyptians would have believed to be correct.

The columns at Karnak are 33 feet in circumference and 69 feet high.

Architecture and Art

The study of the architecture of a people helps us to understand the greatness of a civilization. The Egyptians used a variety of materials to construct their buildings.

1. Examine carefully the chart on the next page.

	Quality of material	Availability of material	Ability to last	Skill to make and use material	Labour force needed
Reeds joined together with mud 					
Adobe bricks 					
Wood planks 					
Rock cut from quarries 					

2. Review your study of the chart with reference to the following sketches.
3. Why was stone used only for the construction of tombs, temples and palaces?

Reed Dwelling

Wood Plank Dwelling

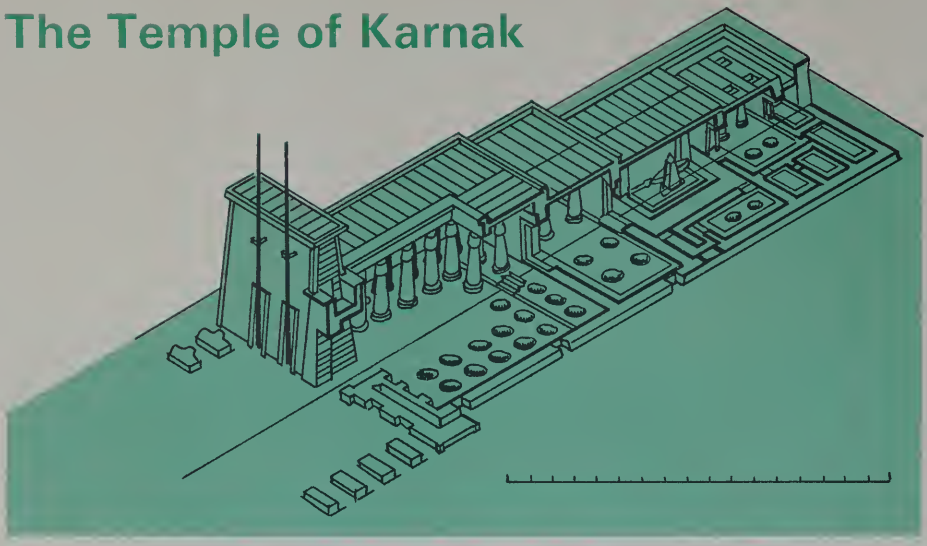
Mud Brick Dwelling

Pyramid

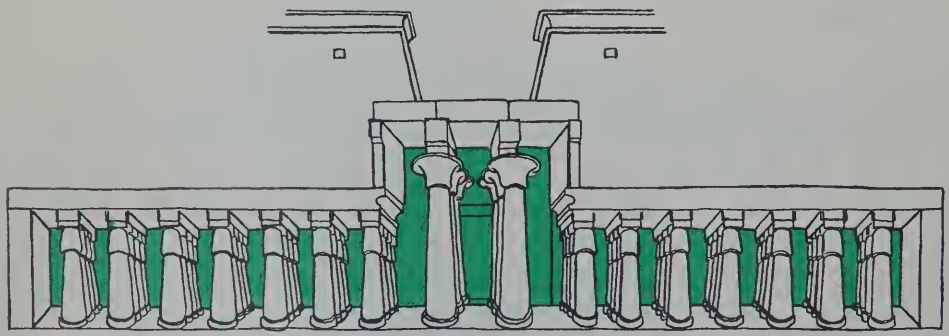
Things To Do

1. Make a survey of the types of construction materials used today.
2. Compare the skyscrapers of today with pyramids and temples built by the Egyptians.

The Temple of Karnak



Great hypostyle hall



1. In comparison with the function of the Pyramids, what was the function of Karnak?
2. You now know why Karnak was built. What do you think of the Egyptian ability to design and construct pyramids, palaces and homes? Can we make use of their knowledge of building?

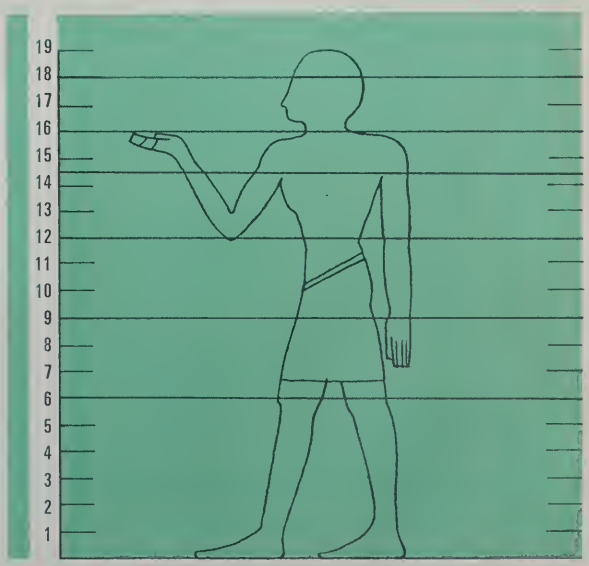
Did You Know?

. . . The hall in the main temple at Karnak is 160 feet long, 300 feet wide and 70 feet high. It was the largest religious building in the world and has not been exceeded.

1. Suppose you and a friend examine a painting or statue. You say it was done by an artist; your friend says it was made by a highly skilled craftsman. What is the difference?

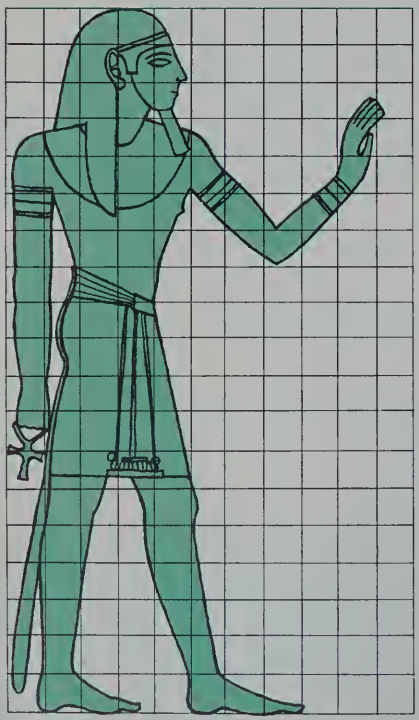
2. The Egyptian language has no word for artist or art. A sculptor is shown in Egyptian script holding a drill. From this example, what is the Egyptian attitude towards art?

3. This form of drawing a person (below) was followed by all Egyptian artists; the lines never varied. Does this fact agree with your answers to questions 1 and 2?



4. Egyptian artists seem to have trouble drawing the human form. From sketches in this book, what problems do you see?

5. Let us say you are given the task that the artist is performing in the picture. Set up your page just as he has set up his wall and proceed to draw. Do you consider yourself an artist?



1 Figure of a servant or offerer holding a jar on her head. Baked clay 6 in. high. About 3500 B.C.
2 Wood statue of a high official. Eyes have copper lids and are inlaid with limestone and resin. Middle Kingdom, about 2000 B.C.
3 The great god Amon of Thebes, wearing his identifying headdress, a cap surmounted by sun-disk and two plumes. 12 in. high. Bronze, originally overlaid with gold. Late period. About 600 B.C.

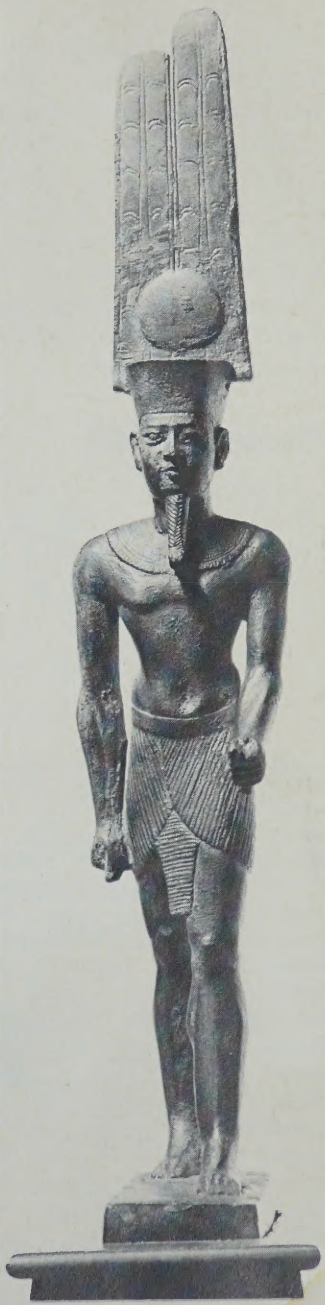
6. Scholars tell us that the art of a people reveals to what degree their civilization has developed. How does Egyptian civilization measure if judged in terms of its art?

7. An essential quality of good art is its creative vitality. Here are 3 examples of Egyptian art. Which is the best? Does your choice reveal anything about Egyptian civilization?

1

2

3



Egypt Continues to Build

These past two weeks in Luxor and Karnak have been among the most exciting moments of my trip. I'm happy to admit that I have learned a great deal about early Egypt and how it developed into such a great civilization.

Dad comes into my room, breaking my serious thoughts.

"Well, dear, you have ten days left of your holiday in Egypt. Until now, you've had to spend much of your time with me because of my busy schedule. I have, though, been able to arrange the next ten days completely free with you. Where we travel, what we do, is your decision."

Immediately ideas begin flashing across my mind. Racing to my desk, I scribble them on paper to make sure I will not forget a thing. If you had the choice, what would **you** plan to do?

Places to Visit

1. Aswan Dam
2. El Fayum
3. New Site of Abu Simbel
4. Port of Alexandria
5. Suez Canal

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